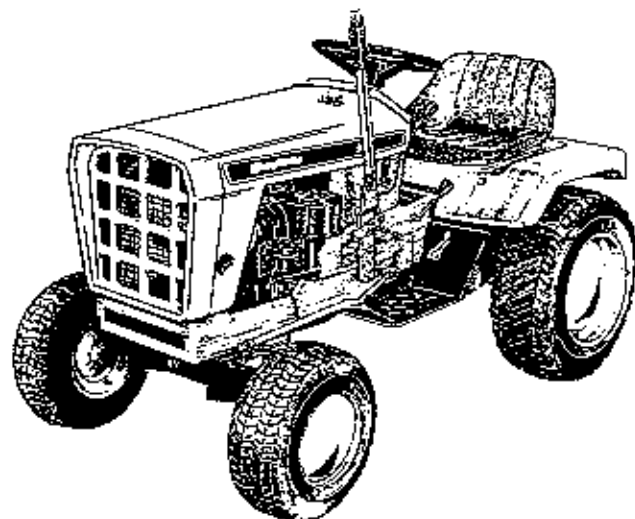


# ***Simplicity***®



## **OWNER'S MANUAL**

### **BARON 3414S RIDING TRACTOR**

MFG. NO. 979

SIMPLICITY MANUFACTURING COMPANY, INC.



SER. FORM - 178084  
LITHO IN USA

**TP - 1373**

## TO THE OWNER

Congratulations on your purchase of the Simplicity tractor. It has been designed with emphasis on the ability to do your most important jobs quickly and efficiently with the least operator effort.

So that you can get the very most from your purchase, you and anyone else who may operate the tractor should study this manual and the owners manual for your attachments before using your Simplicity tractor. Throughout the manual, we will refer to directions as left, right, front, and rear. These directions are as the operator sits on the tractor seat in the driving position.

For your own safety and that of your family and others, periodically review the safety tips found in this manual. You will find the table of contents very useful in referring to this manual when questions arise in the future. We have provided you with information to perform most service jobs quickly and easily, but your Simplicity dealer will be happy to help you with any service or repair work.

When ordering replacement parts for your Simplicity tractor, be prepared to give your dealer the identification numbers found on the tractor and engine identification plates shown below. The identification plate for the tractor is located on the frame in front of the tractor seat. The one for the engine is located on the left side of the engine blower housing. We suggest that you locate the numbers and record them below for easy reference.

**SIMPLICITY MANUFACTURING CO., INC.**  
**PORT WASHINGTON, WIS., U.S.A.**

**Refer to I.D. no. when  
writing or ordering parts.**

**I.D. No.**

**MODEL**

**TYPE**

**CODE**

**MODEL TYPE CODE**  
**1000 1000 1000 1000 1000 1000**  
**1000 1000 1000 1000 1000 1000**  
**1000 1000 1000 1000 1000 1000**  
**1000 1000 1000 1000 1000 1000**

TRACTOR IDENTIFICATION PLATE

ENGINE IDENTIFICATION PLATE

## SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

### SIMPLICITY'S NEW EQUIPMENT WARRANTY

The Company warrants Simplicity products to be free from defects in material and workmanship, except the Company makes no warranty, express or implied, with respect to tires, engines, generators and voltage regulators, which are warranted by their respective manufacturers. Any part covered by this warranty which is proven defective within one year (45 days for equipment used for rental, municipal or commercial purposes) under normal use, from date of purchase, will be replaced without charge, provided such part is returned to the factory, (if requested), and is found to be defective upon examination at the factory. This warranty does not apply to any Simplicity products altered outside of the Simplicity factory. THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, PERFORMANCE, OR OTHERWISE. The Company's obligation under its warranty is strictly and exclusively limited to the replacement of such parts, and in no event shall the Company be liable for any other damages, whether direct, immediate, incidental, special, or consequential. Simplicity Manufacturing Company, Inc., reserves the right to modify or change specifications without prior notification. There are no warranties which extend beyond the description of any Simplicity product.

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## SAFETY PRECAUTIONS TO PROTECT YOURSELF AND OTHERS

### OPERATION

Know the controls and how to stop quickly - **READ THE OWNER'S MANUAL.**

Do not allow children to operate vehicle. Do not allow adults to operate it without proper instruction.

Do not carry passengers. **KEEP CHILDREN AND PETS A SAFE DISTANCE AWAY.**

Clear work area of objects which might be picked up and thrown.

Take all possible precautions when leaving vehicle unattended; such as disengaging power-take-off, lowering attachments, shifting into neutral, setting parking brake, stopping engine and removing key.

Do not stop or start suddenly when going uphill or down hill. Mow up and down the face of steep slopes; never across the face.

Reduce speed on slopes and in sharp turns to prevent tipping or loss of control. Exercise extreme caution when changing direction on slopes.

Stay alert for holes in terrain and other hidden hazards.

Use care when pulling loads or using heavy equipment.

- A. Use only approved drawbar hitch points.
- B. Limit loads to those you can safely control.
- C. Do not turn sharply. Use care when backing.
- D. Use counterweight (s) or wheel weights when suggested in owner's manual.

Watch out for traffic when crossing or near roadways.

Keep all nuts, bolts, and screws tight to be sure equipment is in safe working condition.

Do not alter basic engine governor settings or overspeed engine.

Do not operate equipment when barefoot or wearing open sandals. Always wear substantial footwear.

### FUEL & FIRE HAZARDS

Handle gasoline with care - it is highly flammable.

- A. Use approved gasoline container.
- B. Never remove cap or add gasoline to a running or hot engine or fill fuel tank indoors. Wipe up spilled

gasoline.

- C. Open doors if engine is run in garage - exhaust fumes are dangerous. Do not run engine indoors.

Never store equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark.

Allow engine to cool before storing in any enclosure.

To reduce fire hazard keep engine free of grass, leaves or excessive grease.

### ATTACHMENTS

Disengage all attachment clutches and shift into neutral before attempting to start engine.

Disengage power to attachments and stop engine before leaving operator position.

Disengage power to attachment (s) and stop engine before making any repairs or adjustments.

Disengage power to attachments when transporting or not in use.

When using any attachments never direct discharge of material toward bystanders or allow anyone near vehicle while in operation.

Keep vehicle and attachments in good operating condition and keep safety devices in place. Use guards as instructed in owner's manual.

Vehicle and attachments should be stopped and inspected for damage after striking a foreign object and the damage should be repaired before restarting and operating the equipment.

When using vehicle with mower:

- (1) Mow only in daylight or in good artificial light.
- (2) Never make a cutting height adjustment while engine is running if operator must dismount to do so.
- (3) Shut engine off when unclogging chute.
- (4) Check blade mounting bolts for proper tightness at frequent intervals.

If the equipment should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.

# OPERATION

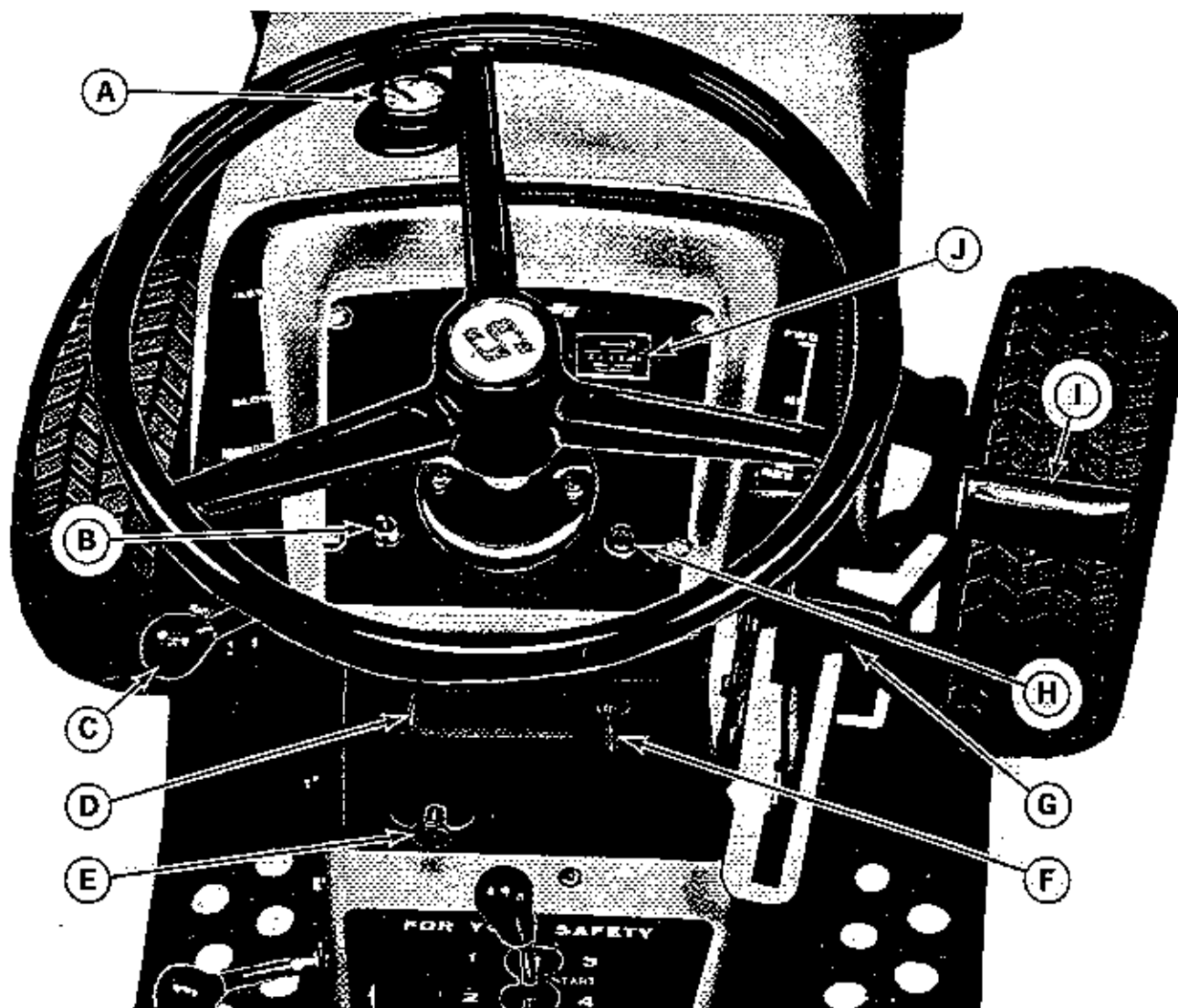


Figure 1. Tractor instrument panel as seen from the operators position on tractor seat.

## INSTRUMENTS AND CONTROLS—HOW TO UNDERSTAND AND USE THEM

Picture yourself seated on your Simplicity tractor. Before starting the engine, let's learn how to understand and use the instruments and controls. The paragraphs referring to the instruments and controls are illustrated in figures 1 through 4.

**IGNITION SWITCH:** (Figure 1, item F) To actuate the ignition switch first insert the ignition key as shown. When the key is turned clockwise to the first position, the ignition is ON. In the ON position the lights, hourmeter, etc. will operate. Turn the key clockwise past the ON position to the START position to actuate the starter. **THE TRANSMISSION SHIFT LEVER MUST BE IN THE NEUTRAL POSITION AND THE POWER TAKE OFF CLUTCH CONTROL LEVER (S) MUST BE IN THE DISENGAGED POSITION BEFORE THE STARTER WILL ACTUATE.** Release the

key as soon as the engine starts. Return the key to the vertical position to stop the engine. **CAUTION: ALWAYS REMOVE THE IGNITION KEY WHEN CLEANING, ADJUSTING, OR SERVICING THE TRACTOR OR ANY ATTACHMENT OR WHEN LEAVING THE VEHICLE UNATTENDED.**

**CHOKE CONTROL KNOB:** (Figure 1, item E) The choke control knob may be pulled out to increase the amount of fuel entering the engine for starting and cold weather warmup. When starting a cold engine in cold weather pull the choke all the way out. Some choke may be required to start the engine when the air temperature is above 70 degrees F or while the engine is still warm from being recently run. After the engine has started, push the choke in slowly. In cold weather it may be necessary to leave the choke pulled out slightly for three or four minutes while the engine warms up. **NEVER OPERATE THE ENGINE WITH THE CHOKE OUT AFTER IT HAS HAD SUFFICIENT TIME TO**

**WARM-UP. ABOUT 5 MINUTES SHOULD BE SUFFICIENT EVEN IN COLD WEATHER.**

**GENERATOR WARNING LIGHT:** (Figure 1, item H) The generator light will warn you if the generator or voltage regulator on your tractor is not functioning properly. It is normal for the generator light to come on when the ignition switch is in the ON position and the engine is stopped or running at low speed. The light should go out when the engine is running at higher speeds. If it does not the generator or voltage regulator is not functioning properly. Check the generator belt adjustment as described on page 13. See your Simplicity dealer if the light will not go out after the belt is adjusted.

**HOURLMETER: (OPTIONAL)** (Figure 1, item J) The hourmeter is useful in keeping accurate maintenance records and telling how much time the tractor has been used on a particular job. It operates anytime the ignition is turned on whether the engine is running or not.

**FUEL GAUGE AND FILLER CAP:** (Figure 1, item A) The fuel gauge indicates fuel level. **BEFORE ADDING FUEL, SHUT OFF THE ENGINE AND ALLOW IT TO COOL SEVERAL MINUTES.** Turn the cap counterclockwise to remove it and add fuel. The 3 gallon capacity provides about 3 hours of mowing. Use leaded or non-leaded **REGULAR** grade automotive gasoline. **CAUTION: DO NOT ALLOW LIGHTED CIGARETTES, MATCHES, ETC., AROUND ANY OPEN GASOLINE CONTAINER. DO NOT OVERFILL; WIPE UP ANY SPILLED GASOLINE.**

**LIGHT SWITCH: (OPTIONAL)** (Figure 1, item D) The switch should be moved up to the ON position to turn on the tractor lights. To prevent the lights from being turned on by unauthorized persons, the ignition switch must also be in the ON position for the lights to operate. To turn the lights off, push the light switch down to the OFF position. **DO NOT OPERATE THE LIGHTS FOR LONG PERIODS OF TIME (MORE THAN 20 MINUTES) WHEN THE GENERATOR LIGHT IS ON OR THE BATTERY MAY DISCHARGE ENOUGH SO IT WILL NOT START THE ENGINE.**

**POWER LIFT SWITCH: (OPTIONAL)** (Figure 1, item B) The power lift switch controls the electrically operated power lift unit. Push the toggle switch forward to raise a front, center or rear mounted attachment. Pull it back toward you to lower the attachments. The power lift will stop and hold in any position when you release the toggle switch. The height indicator (Figure 6, item A) on the left side of the tractor shows attachment position. The lift motor will ratchet when it has reached the end of its travel. Ratcheting is not harmful to the unit, but releasing the toggle switch as soon as ratcheting begins will prevent unnecessary wear. If the motor is allowed to ratchet for an extended period of time, a circuit breaker will open, disconnecting power to the lift motor. It will automatically reset after about a minute.

**CLUTCH AND BRAKE PEDAL:** (Figure 1, item I) Depressing the pedal will first disengage the tractor drive clutch. As you continue to depress the pedal, the brakes will

be applied to stop the tractor. The clutch-brake pedal may be depressed for shifting transmission gears, but it is not necessary if the shuttle drive control lever (Figure 1, item G) is in the neutral position.

**SHUTTLE DRIVE CONTROL LEVER** (Figure 1, item G) The position of this lever determines whether the tractor moves forward or reverse or remains stationary. It can also be used for short periods of time to reduce tractor travel speed in either forward or reverse, or used to stop tractor travel by pulling it toward the opposite position.

Although the tractor may be shifted into or out of any gear by depressing the clutch-brake pedal, it may be shifted more rapidly by placing the shuttling control lever in the center **NEUTRAL** position as shown in figure 1. The brake which is automatically applied when this lever is in neutral, stops "spinning" of the transmission input shaft to facilitate shifting.

After shifting the four-speed transmission into the desired gear, the tractor can be driven **FORWARD** by pushing the shuttle drive control lever ahead and locking it in the forward position. To drive in **REVERSE** pull the shuttle drive control lever back and lock it in the reverse position. For a particular transmission gear, the tractor will drive the same speed in reverse as forward. The shuttle drive control lever may be moved from forward to reverse or reverse to forward without waiting for the tractor to stop moving. To prevent sudden change of direction and unnecessary wear to the clutches, the shuttle drive control lever should be moved slowly into either drive position.

The tractor may be "inched" or slowed for working in tight areas by holding the shuttle drive control lever part way toward the locked drive position. This can be done for short periods of time without damage, however, constant slipping of the drive clutches will cause them to wear and require frequent adjustment.

**SPEED CONTROL LEVER:** (Figure 1, item C) The engine speed control lever is used to set the desired engine speed. The speed control lever should be moved forward away from the operator to increase engine speed or back toward the operator to reduce engine speed. Consult the appropriate section of this manual for specific information on suggested settings of the engine speed control lever. For example: starting the engine, page 5. Controlling tractor ground speed page 5, and the Operation Chart on page 7.

**TRANSMISSION SHIFT LEVER:** (Figure 2, item A) The transmission shift lever is used to select the desired transmission gear. There are four drive positions. Using the shuttle drive unit, the tractor will move either forward or reverse in any of the gears. The approximate ground speed in miles per hour for each gear at full engine speed (3600 RPM) both forward and reverse are shown below:

GEAR	MAXIMUM GROUND SPEED
First	.96 MPH
Second	2.3 MPH
Third	3.7 MPH
Fourth	5.1 MPH

The diagram on the tractor frame shows the location of each position. To shift the transmission into first or third, push the shift lever forward and move it left or right to the de-

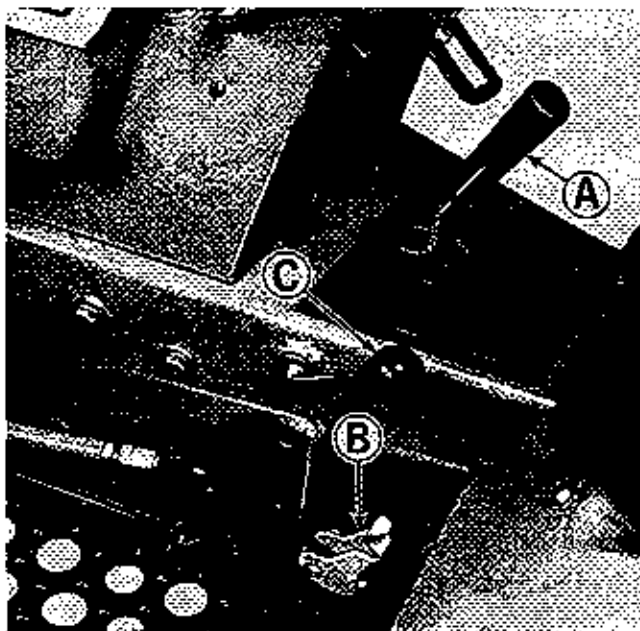


Figure 2. Controls seen from left side of tractor.

sired gear. To shift into second or fourth, pull the shift lever back toward you and move it to the left or right.

Do not attempt to move the shift lever unless tractor movement is stopped and either the shuttle drive control lever is in neutral or the clutch-brake pedal is depressed. The transmission shift lever must be in the neutral **START** position for the engine starter to operate.

**PARKING BRAKE LOCK:** (Figure 2, item B) To lock the parking brake, grasp the lock and pull it upward and back until the handle rests against the footrest as shown in figure 2. To release pull the top portion away from the footrest and down. It should be locked in the up position to prevent the tractor from rolling whenever the operator leaves the tractor seat. Remember to release the parking brake before driving the tractor.

**POWER TAKE OFF CONTROL LEVER:** (Figure 2, item C) This lever controls power to center or rear mounted attachments such as a mower or rotary tiller. Pull the lever up and move it forward until it snaps over center to engage the power take off. Pull it back and down to disengage. Always move the power take off control lever all the way to the disengaged or engaged position. The tractor engine should be running at 1/2 to full engine speed when the power take off is engaged to absorb the added load. **CAUTION: ALWAYS DISENGAGE THE POWER TAKE OFF, AND WAIT UNTIL ALL ATTACHMENTS HAVE STOPPED MOVING BEFORE LEAVING THE TRACTOR SEAT.** The power take off control lever must be disengaged before the engine will start.

**MANUAL LIFT LEVER:** (Figure 3, item A) The lift lever is used for raising or lowering attachments such as the rotary mower or the tiller for transport. The operating height of attachments, can be regulated by using the notches and pin holes provided. The thumb button (B) on top of the handle disengages the catch from the quadrant so the

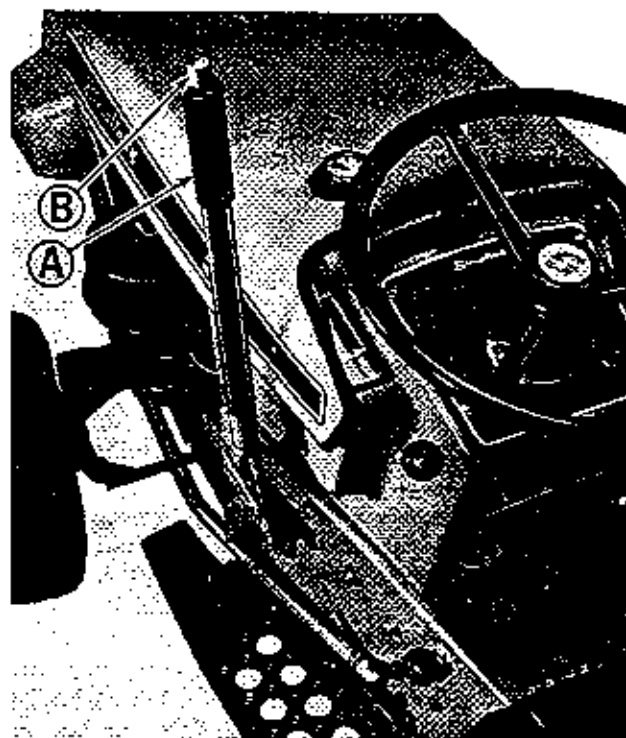


Figure 3. Controls on left side of tractor.

lever can be moved as desired and locked into position. See the owners manual for any attachment you may be using for specific information on how the lift lever should be used.

**DUAL LIFT LEVER: (OPTIONAL)** (Figure 4, item A) The dual lift lever provides a convenient means of operating a front mounted attachment such as a snow

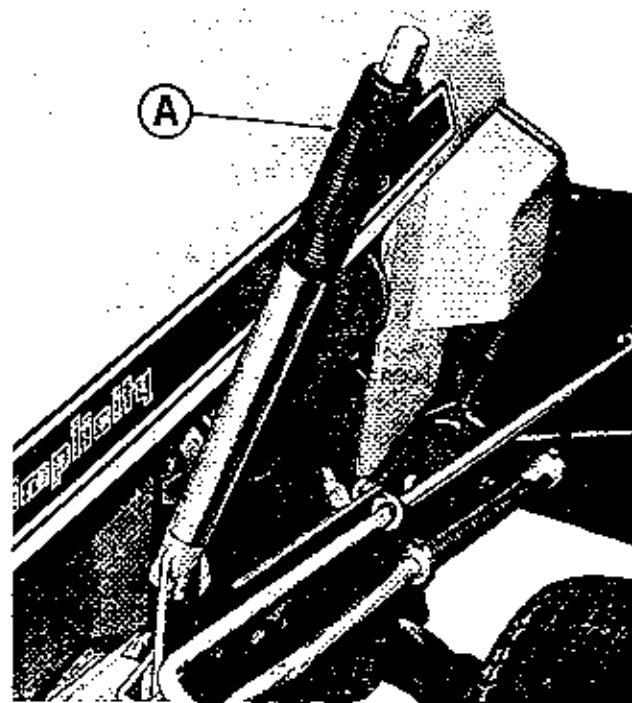


Figure 4. Dual lift lever.

thrower or a snow plow and dozer blade independently of center or rear mounted attachments. A good example is using the rotary tiller and dozer blade in leveling a ground surface. Both attachments can be mounted to the tractor at the same time, and the operator can conveniently raise or lower each of them from the tractor seat.

## BEFORE OPERATING THE TRACTOR

Though your Simplicity Dealer may have performed the before starting checks listed below, we suggest that you personally check each one so that you will become familiar with them and also to insure that your tractor is ready to operate the first time you use it.

**TIRE INFLATION:** The tires should be checked and inflated to the proper pressure before operating. Front tires should have 12 to 15 PSI of air and rear tires 6 to 8 PSI of air.

**CRANKCASE OIL:** Before starting the engine, insure the engine crankcase is filled with the correct grade and weight of oil. See page 15 in the Maintenance section of this manual for instructions on checking the oil and the correct oil to use.

**FUEL SUPPLY:** Fill the fuel tank completely with clean fresh leaded or non-leaded regular grade automotive gasoline. (Do not mix oil with gasoline). Premium gasolines are not recommended as they increase carbon deposits in the engine. **CAUTION: GASOLINE IS HIGHLY FLAMMABLE. NEVER ALLOW ARTICLES SUCH AS LIGHTED MATCHES, OR CIGARETTES, WHICH COULD CAUSE IT TO IGNITE NEAR OPEN GASOLINE CONTAINERS. DO NOT OVERFILL. WIPE UP ANY SPILLED FUEL. BE SURE THE ENGINE IS NOT RUNNING AND HAS BEEN ALLOWED TO COOL BEFORE ADDING FUEL.**

**BEVEL GEAR BOX OIL:** See figure 31. Remove the pipe plug (A) from the elbow at the rear of the gear case. Oil should be present at the bottom of the filler elbow. If it is not, add 90 weight transmission oil until it is visible in the bottom of the elbow.

**AIR CLEANER:** Insure that the air cleaner is in place and properly sealed. If it is dirty, clean or replace it according to the instructions on page 15, in the Maintenance section of this manual.

**BATTERY:** Check the battery to be sure it is filled to the proper level with electrolyte and the vent holes in each of the filler caps are open. See page 18 in the Maintenance section of this manual.

**TRANSMISSION OIL:** See figure 30. Remove the pipe plug (A) to check the oil. The oil should be level with the bottom of the threads. If it is not, add 90 weight transmission oil until it is level with the bottom of the hole threads.

**LUBRICATION:** Lubricate all grease zerks and pivot points according to the Every 25 Hour Maintenance instructions on page 14 of this manual. A pisto-luber grease

gun specially designed for this purpose is available from your Simplicity dealer.

**ATTACHMENTS:** Read and become familiar with the Owners Manual for any attachments you are using with your tractor.

**SEAT ADJUSTMENTS:** The seat should be adjusted so the operator can comfortably depress the clutch and brake pedals while sitting back in the seat. See page 9 in the Adjustment section of this manual if the seat requires adjusting.

## STARTING THE ENGINE

1. Refer to the Instruments and Controls section beginning on page 2 of this manual for the location and use of the instruments and controls. **CAUTION: IT IS DANGEROUS TO START THE TRACTOR UNLESS YOU ARE SEATED IN THE TRACTOR SEAT.** Insure that the power take off clutch control lever (s) are in the disengaged position, and the transmission shift lever is in the neutral START position.
2. Move the engine speed control lever to midway between slow and fast.
3. Pull the choke knob out. In cold weather pull it all the way out. In warmer weather or when starting an engine which is still warm from recent operation less choke will be required.
4. Depress the clutch brake pedal and hold it down to disengage the transmission drive. Although the engine may be started without disengaging the clutch, in cold weather it will start easier with the clutch disengaged since the starting motor will not have to turn the transmission in addition to the engine.
5. Insert the ignition key and turn it to the right past the ON position to the START position to actuate the starter motor. As you turn the key, check the Generator warning light to see that it is functioning properly.
6. When the engine starts, release the key and allow it to return to the ON position. Slowly push the choke in. After the engine has run for a few minutes it should not require any choking. If the engine does not start after about 10 seconds of cranking it may be receiving too rich a fuel mixture. Push the choke in and try again. The engine may not need to be choked when starting it in warm weather or if it has been operated recently.
7. Release the clutch brake pedal as soon as the engine is running smoothly.

## STOPPING THE ENGINE

1. Move the engine speed control lever to the SLOW position.
2. If the tractor has been operating under full load, allow the engine to idle for about a minute to reduce the engine temperature. Stopping a hot engine too suddenly can damage engine parts.
3. Turn the ignition key counter-clockwise to the vertical position to stop the engine.
4. Set the parking brake.
5. Remove the ignition key to prevent unauthorized use of the tractor.

## CONTROLLING TRACTOR GROUND SPEED

Tractor ground speed can be controlled by the position of



the transmission shift lever and/or the engine speed control lever or for short periods by the shuttling drive lever.

### ENGINE SPEED

Attachments driven by the power take off operate best at a particular speed. The engine speed control should be adjusted to set the attachment speed for the operation being performed and the tractor transmission used to control travel speed. The engine speed control is one means for controlling ground speed when pulling light loads or transporting the tractor.

### TRANSMISSION SHIFT LEVER

See the chart on page 7 for selecting the gear recommended for performing various jobs.

Operations such as snow throwing or lawn revitalizing can be performed more quickly by using a low forward speed and higher reverse speed. First and third gears are opposite each other and it is simple to "flip shift" with the shuttling speed control in neutral using first for forward and third for reverse.

### STARTING TRACTOR TRAVEL

Assure yourself that the area in which you are going to drive the tractor is free of obstructions. Insure the shuttle drive control lever is in the **NEUTRAL** position, then shift the four-speed transmission into the desired gear. It is not necessary to depress the clutch-brake pedal to shift gears if the shuttle drive control lever is in the neutral position.

Release the parking brake and look around to insure there are no obstructions in your path. To start the tractor in motion, move the shuttle drive control lever **SLOWLY** forward or back from the neutral position until it locks in the forward or reverse position.

### STOPPING TRACTOR TRAVEL

Tractor motion may be stopped either with the shuttle drive control lever or the clutch-brake pedal. To stop the tractor forward travel use the shuttle drive control lever, move the lever to the **NEUTRAL** position and then slowly toward the **REVERSE** position. As soon as the tractor stops moving, place the shuttle drive control lever in neutral. If you wish to stop the tractor while it is moving in reverse, push the shuttle drive lever past neutral slowly toward the forward position.

In emergencies or if both hands are required on the steering wheel, depress the clutch-brake pedal to stop the tractor. Before leaving the tractor seat, shut off the engine, set the parking brake, and remove the ignition key.

### HOT WEATHER OPERATION

When operating the tractor at temperatures above 75°F pay particular attention to the following items to prevent damage.

1. Keep the engine cooling fins and fan screen clean and free of obstruction which would decrease air flow to and from the engine. See page 14 for cleaning instructions.
2. Insure that you are using the proper grade and weight of oil in the engine for the temperature where the tractor is being used. Check the oil level each time you fill the fuel tank.

### DO NOT OVERFILL THE CRANKCASE — ENGINE OVERHEATING MAY RESULT.

3. Check the battery water level more frequently than every 25 hours which is recommended under normal conditions. High temperatures cause faster evaporation of water from the battery.
4. Remove the carburetor heat deflector used with the snow thrower or dozer blade.

### COLD WEATHER OPERATION

When the tractor is being used in temperatures below 30°F, check the following items closely:

1. Use the correct grade and weight of oil for the temperature conditions. Change the oil only when the engine is warm. If an unexpected temperature drop occurs when the engine is filled with summer oil, before starting the engine, move the tractor to a warm location until the oil will flow freely.
2. Use fresh fuel. Fill the fuel tank after each day's use to protect against moisture condensation.
3. Disengage the clutch when starting the engine.
4. Install the heat deflector furnished with the snow thrower or dozer blade if these attachments are to be used.

### DUSTY OPERATING CONDITIONS

When the tractor is operated in dusty or dirty conditions check the following items closely:

1. Keep the engine fan screen and cooling fins clean and free of materials which will decrease air flow.
2. Service the air cleaner more frequently. Clean or replace it as often as necessary to allow air to flow to the carburetor freely.
3. Change the engine oil more frequently. The oil should be changed more often than every 25 hours as is recommended under normal conditions. In extremely dusty conditions, change every 10 operating hours.

### OUT OF SERVICE PROTECTION (Storage)

When the tractor is to be stored without use for a month or longer, the following precautions should be taken to insure your tractor will be ready to go when you need it:

1. Unless you wish to run the tractor until the fuel tank is empty, add a good brand of gasoline stabilizer. This additive, **Stabil**, available from your Simplicity dealer, prevents formation of gum and varnish for up to one year, providing easier starting and a cleaner fuel system.
2. Drain and refill the engine crankcase while the engine is warm. Tie a tag on the tractor indicating what grade and weight of oil was used.
3. Remove the spark plug and pour one ounce (two tablespoons) of SAE 30 engine oil into the cylinder. Engage the starter to turn the engine over a few times, then reinstall the spark plug.
4. Clean the air cleaner element as described on page 18, of the Maintenance instructions.
5. Plug the exhaust outlet to prevent the entrance of moisture, dirt, bugs, etc.
6. Insure the battery is filled to the proper level with water and is fully charged. Battery life will be increased if it is removed and put in a cool dry place and fully charged about once a month.
7. Grease all grease zerks and put oil on the lubrication points



shown in the Maintenance section.

8. If the tractor is to be stored 6 months or longer block the tractor up off the wheels to relieve weight and keep the tires off a damp floor. Protect the tires from prolonged exposure to direct sunlight.

9. Store the tractor in a dry place indoors.

## STARTING THE TRACTOR AFTER STORAGE

Before starting the tractor after storage, do the following:

1. Remove the blocks from under the tractor.
2. Replace the battery.
3. Unplug the exhaust outlet.
4. Perform the Before Operating instructions on page 5.

Attachment	Engine Speed Control	Transmission Gear Selection	Approx. Ground Speed (MPH)	Required Accessories and Options	Recommended Accessories and Options
Transporting Tractor			3-5		
42" or 48" Rotary Mower (Smooth terrain - normal grass)			4-5		2 Rear wheel weights when mowing slopes 20-40%, mowing slopes greater than 40% not recommended.
42" or 48" Rotary Mower (Rough terrain heavy or wet grass)			3-3.5 or 2-2.3		2 Rear wheel weights when mowing slopes 20-40%, mowing slopes greater than 40% not recommended.
46" Sickle Bar			2.5-3.5 or 3-5		2 Rear wheel weights when mowing slopes 20-40%, mowing slopes greater than 40% not recommended.
38" Lawn Revitalizer			.8-.96 or 1.5-2.3	Rear lift kit.	Power lift kit.
36" or 42" Snow Thrower (Light Snow)			2-3.5		Power lift kit. Tire chains. 4 Rear wheel weights. 2 Front wheel weights.
36" or 42" Snow Thrower (Heavy or wet snow)			.5-.96		Power lift kit. Tire chains. 4 Rear wheel weights. 2 Front wheel weights.
42" or 46" Snow Plow and Dozer Blade			2-3.5 or 4-5		Tire chains. 4 Rear wheel weights. 2 Front wheel weights. Power lift kit.
42" Grader Blade			2-3.5 or 3.5-5		4 Rear wheel weights.
36" Rotary Tiller			1	Rear lift kit.	4 Rear wheel weights. 2 Front wheel weights. Power lift kit.
10' Mounted Plow			2	Rear lift kit.	4 Rear wheel weights. 2 Front wheel weights. Power lift kit.
Cultivator or Planter			2-3	Rear lift kit.	4 Rear wheel weights. 2 Front wheel weights. Power lift kit.
Spring Tooth Harrow			2-3.5	Rear lift kit.	4 Rear wheel weights. 2 Front wheel weights. Power lift kit.

REFER TO YOUR ATTACHMENT OWNERS MANUALS FOR ADDITIONAL INFORMATION.

Figure 5. Operation chart.

# TROUBLE SHOOTING GUIDE

PROBLEM OR SYMPTON	POSSIBLE CAUSES	CHECKS AND CORRECTIONS
Starter will not turn engine over.	Transmission shift lever not in neutral position. Power take off not disengaged. Battery discharged or dead. Circuit breaker tripped. Neutral safety start switch not properly adjusted. Wiring loose or broken.  Battery terminals corroded.	Move transmission shift lever to neutral start position. Move control lever (s) to disengage position. Check the battery - charge or replace as necessary. Wait a minute for circuit breaker to reset. Adjust the safety switch for the transmission. See page 12. Visually check wiring, replace any broken or frayed wires, tighten loose connections. Clean battery terminals.
Engine turns — will not start.	Out of fuel. Engine flooded. Crankcase oil too heavy. Fuel filter plugged. Water in gasoline. Spark plug worn or dirty.	Fill fuel tank. Push choke in, attempt to start. Change oil as recommended on page 15. Replace fuel filter. See page 18. Drain fuel tank, replace fuel filter. Check and replace or set. See page 19.
Engine starts hard or runs poorly.	Fuel mixture too rich.  Fuel mixture too lean or too rich. Spark plug worn or dirty.	Push choke in. Clean air filter element. See page 18. Adjust carburetor. See page 13. Check and replace or set. See page 19.
Engine knocks.	Not enough oil in crankcase. Using wrong weight of oil.  Using wrong grade of gasoline.	Add oil as required. See page 14. Change oil, use weight recommended for weather conditions. See page 15. Use regular grade automotive gasoline.
Tractor drive clutch will not disengage.	Too much clutch free travel.  Belt stop not properly adjusted.	Adjust clutch pedal free travel. See page 10.  Adjust belt stop. See page 10, Clutch free travel.
Engine will not idle smoothly.	Air Cleaner dirty. Water in fuel tank. Carburetor fuel mixture set incorrectly. Spark plug worn or not set properly.	Clean or replace air cleaner. See page 18. Remove fuel tank to drain, replace fuel filter. Adjust carburetor. See page 13.  Adjust or replace. See page 19.
Excessive oil consumption.	Engine running too hot. Using wrong weight of oil. Too much oil in crankcase.	Clean engine fins and fan screen. See page 14. Change to correct weight oil. See page 15. Check oil level according to instructions on page 14.
Exhaust is black or smoky.	Air filter element dirty. Fuel mixture too rich.	Clean or replace filter element. See page 18. Be sure choke opens fully when it is pushed way in. Set carburetor adjustment. See page 13.
Engine runs, tractor will not drive or drive with full power.	4 - Speed transmission not in gear. Parking brake ON. Shuttle drive clutches need adjusting. Main drive belts are slipping.	Put 4 - speed transmission in gear.  Release parking brake. Adjust shuttle drive. See page 10.  Adjust clutch belt tension and free travel. See page 10.
Tractor creeps forward or back with shuttle control in Neutral.	Shuttle drive linkage out of adjustment.	Adjust shuttle drive. See page 10.
Brake will not hold.	Brakes need adjusting. Worn brake linings.	Adjust brake linkage. See page 11. Have your Simplicity dealer replace linings.
Tractor drive clutch will not engage.	Too little clutch free travel.	Adjust clutch free travel. See page 10.
Tractor handles poorly.	Steering linkage or front axle loose. Tires not properly inflated.  Wheels are spinning or slipping.  Moving too fast on sloping surfaces.	Tighten any loose connections.  Inflate tires correctly. Six to eight pounds in rear and 12 - 15 pounds in front. Use weights to provide additional stability and traction. Reduce speed.
Power lift will not operate.	Ignition switch may not be on. Circuit breaker may have cut out. Loose or broken wiring.	Turn ignition switch on. Wait a minute for circuit breaker to reset. Check and repair wiring.
Drive belt slips.	Belt stretched or worn. Pulleys may be greasy or oily. Too little clutch free travel.	Replace with correct Simplicity belt. Clean with non-flammable solvent. Adjust free travel. See page 10.

# ADJUSTMENTS

Most of the adjustments described here are easy to perform. Some of the adjustments require a little mechanical know-how and some special tools to do them well. You may wish to have your Simplicity dealer make some or all of the adjustments as they are required; however, we have given instructions for them here as a convenience to you should you wish to make them yourself. **CAUTION: DO NOT ATTEMPT TO MAKE ANY ADJUSTMENTS WHILE THE ENGINE IS RUNNING UNLESS REQUIRED IN THE INSTRUCTIONS. IF THE ENGINE MUST BE RUNNING TO MAKE AN ADJUSTMENT, BE CAREFUL TO STAY CLEAR OF ANY MOVING PARTS.**

Simplicity tractors have been designed for easy accessibility to the areas which need to be reached in making adjustments and performing maintenance. The underside of the frame is open to provide easy access to areas requiring lubrication, adjustment, or repair.

## RAISING THE TRACTOR HOOD

See figure 6. The tractor hood is hinged at the front by two spring loaded bolts. It may be easily opened by releasing the two rubber straps (B) located on either side of the hood. Pull down and out on the straps to release them. Lift upward on the back of the hood to raise. The hood raised in this position provides easy access to the generator, battery, fuel tank, engine, etc.

## RAISING THE SEAT DECK

See figure 7. The tractor seat deck (A) is hinged at the back. To raise the seat deck, reach under it from each side and pull the two locking levers (B) to the outside. As you hold the locks out raise the seat deck as shown in figure 8. Raising the seat deck in this manner will expose many of the transmission adjustment and maintenance areas.

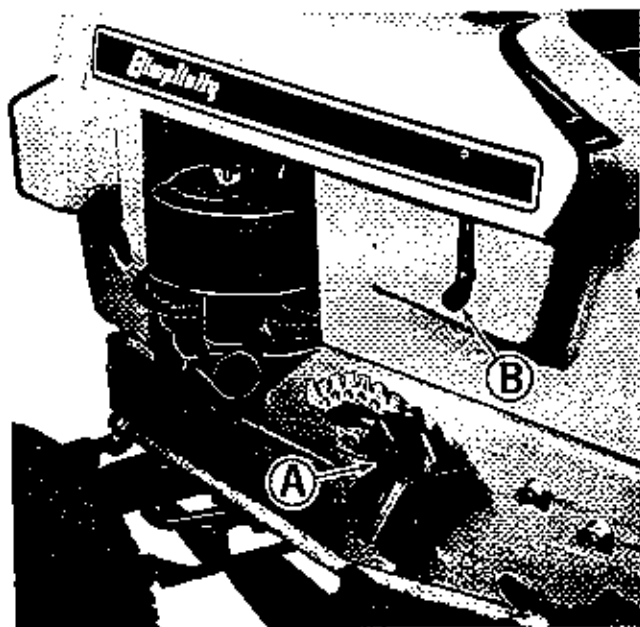


Figure 6. Left side of tractor

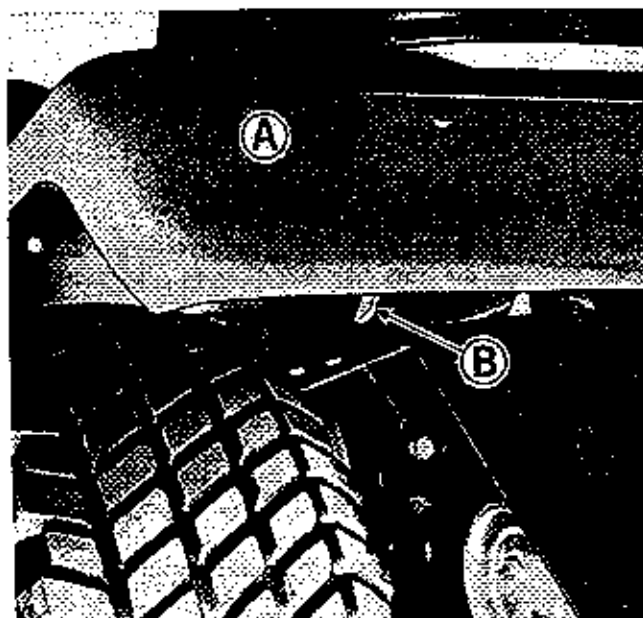


Figure 7. Seat deck release at front of seat deck.

## SEAT ADJUSTMENT

See figure 8. The tractor seat is properly adjusted when the operator can comfortably operate the clutch and brake pedal while sitting back in the seat. The seat can be adjusted forward or back in any of four positions. If adjustment is required, proceed as follows:

1. See figure 8. Position the seat deck as shown by following the instructions under Raising the Seat Deck on page 9.
2. Remove the two cap screws and lock washers at (A).
3. Remove the two nuts and lock washers at (B).
4. If the seat is to be positioned in either of the two forward sets of mounting holes the two rubber spacers are placed over the studs at (B) and used between the seat and seat deck. If the seat is to be positioned in either of the two

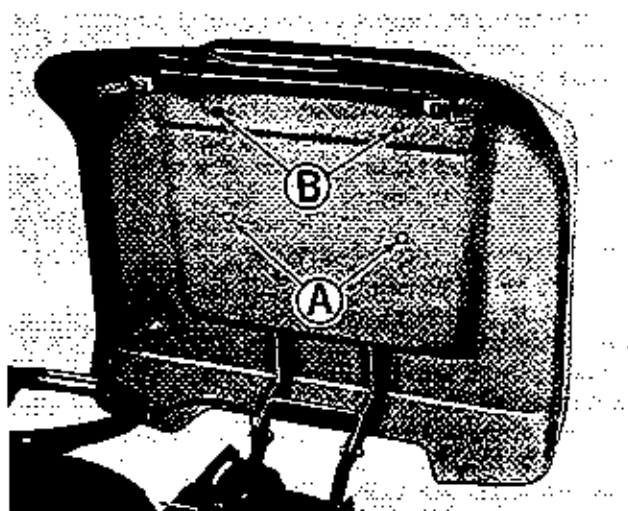


Figure 8. Seat deck raised.

rearward positions, the rubber spacers are placed over the studs (B), but under the seat deck. Line the seat up with the desired holes in the seat deck, and install the rubber spacers according to the holes used.

5. Install the two lock washers and nuts at (B) and tighten them securely.
6. Install the two cap screws and lock washers at (A) and tighten them securely.
7. Lower the seat deck.

## CLUTCH FREE TRAVEL

See figure 9. The clutch free travel is correct when there is  $1/4"$  between the nuts (A) and the rod guide when the clutch brake pedal is released and pulled rearward as far as it will go. If adjustment is required, proceed as follows:

1. Raise the seat deck as shown in figure 8, by following the instructions under Raising the Seat Deck on page 9.
2. Using two wrenches hold the forward nut at (A) stationary with one wrench while turning the rearward nut counter-clockwise slightly with the other to separate them.
3. Pull rearward on the clutch brake pedal to insure it has returned completely to the engaged position.
4. Turn the forward nut at (A) as necessary so that the distance between it and the rod guide is  $1/4"$  as shown in figure 9.
5. Using two wrenches hold the forward nut at (A) stationary while turning the rear one clockwise to tighten the two nuts together securely.
6. See figure 12. Check belt stop (A) and adjust it if necessary so it does not rub the drive belt when the clutch brake pedal is released. When the clutch brake pedal is depressed, belt stop (A) should pick up the drive belt to aid in disengaging it. If adjustment is required, loosen nut (B) slightly. Be sure to tighten nut (B) securely after the adjustment is completed.
7. Lower the seat deck.

## SHUTTLE DRIVE ADJUSTMENT

If the tractor does not drive with full power in either forward or reverse, creeps (moves slowly forward or backward) when the shuttle drive control lever is in neutral, or does not shift into gear without grinding, the shuttle drive may need adjusting. Proceed as follows:

1. With the engine stopped, raise the tractor seat deck by following instructions under Raising the Seat Deck on page 9.
2. Center the shuttle drive control lever (figure 1, item G) in the neutral position as shown.
3. See figure 9. Loosen set screw (B). Slide brake detent (C) forward or back as necessary to center it on brake pin (D). Tighten set screw (B) securely.
4. Push shuttle drive control forward until it latches in the forward position. (figure 1, item G).
5. See figure 10. Loosen nut (E) and turn brake pad (F) so there is  $1/8"$  clearance between the brake pad and the drive pulley. Tighten nut (E) securely.
6. See figure 10. Use the following procedures to adjust the forward clutch.
  - a. See figure 1. Position the shuttle drive control lever (G) in NEUTRAL as shown.
  - b. See figure 10. Loosen the set screw in collar (A). Push the rod guide assembly (B) forward until slack is removed from the forward drive belt (C).

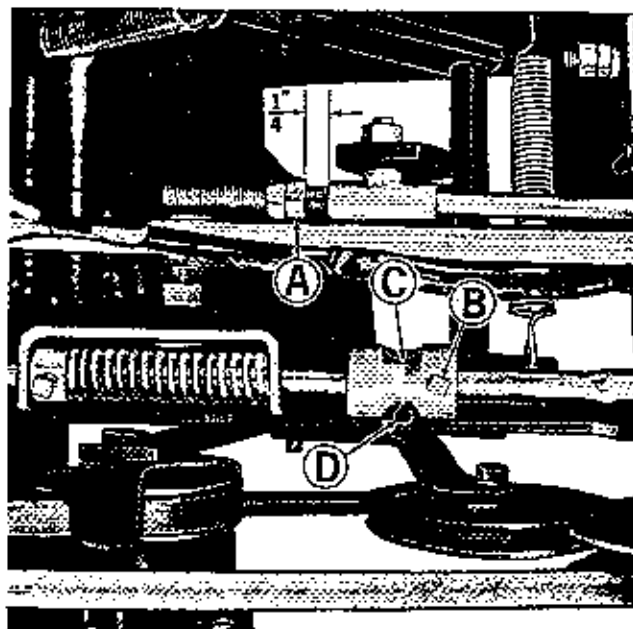


Figure 9. Clutch free travel and shuttle drive adjustment.

- c. While holding rod guide assembly (B) forward, tighten the set screw in collar (A).
- d. Lock the shuttle drive control lever (Figure 1, item G) in the forward drive position.
- e. See figure 10. The distance (D) between the rod guide and collar (A) should be  $1/8"$  to  $3/16"$ . If it is not, repeat steps a. through d. until distance (D) is  $1/8"$  to  $3/16"$ . Place more tension on belt (C) to increase distance (D) or less tension to decrease the distance.
7. Place the shuttle drive control lever in the NEUTRAL position.
8. See figure 11. Remove the cotter pin from swivel (A) and pull swivel (A) out of hole (B). Rotate swivel (A) until all slack is removed from brake band (C) when swivel (A) is placed through hole (B).
9. Install the cotter pin in swivel (A) to hold it in position through hole (B).

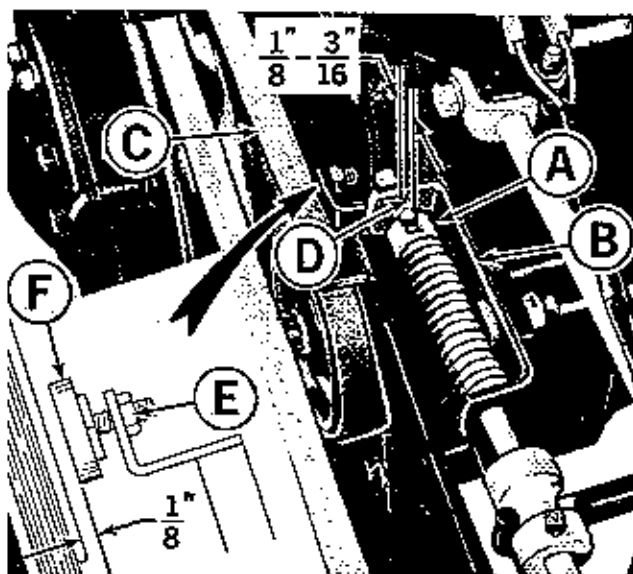


Figure 10. Shuttle drive forward adjustment.

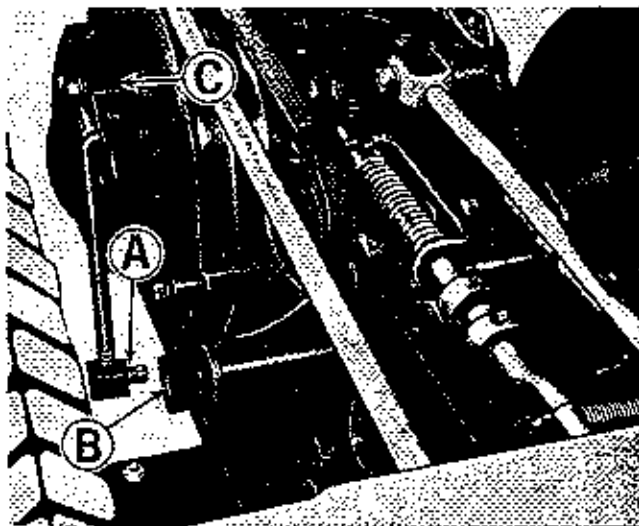


Figure 11. Shuttle drive adjustments.

10. See figure 12. With the shuttle drive control lever locked in the forward drive position, belt stop (C) should be positioned so there is 1/16" to 1/8" clearance between each leg of it and the clutch belt. If adjustment is necessary, loosen nut (D) slightly. Tighten nut (D) securely after the adjustment is completed.

11. Lower the seat deck. Start the engine and drive the tractor to check your adjustment. If the shuttle drive does not operate correctly, locate the problem noted below and make the correction indicated.

**Will not pull forward with full power.** Repeat adjustment step 6 placing more tension on the clutch belt. (figure 10, item C).

**Tractor creeps forward when control lever is in neutral.** Repeat step 6 placing less tension on the clutch belt. (figure 10, item C).

**Will not pull with full power in reverse.** Repeat steps 7 through 9 tightening brake band (figure 11, item C) more than previously.

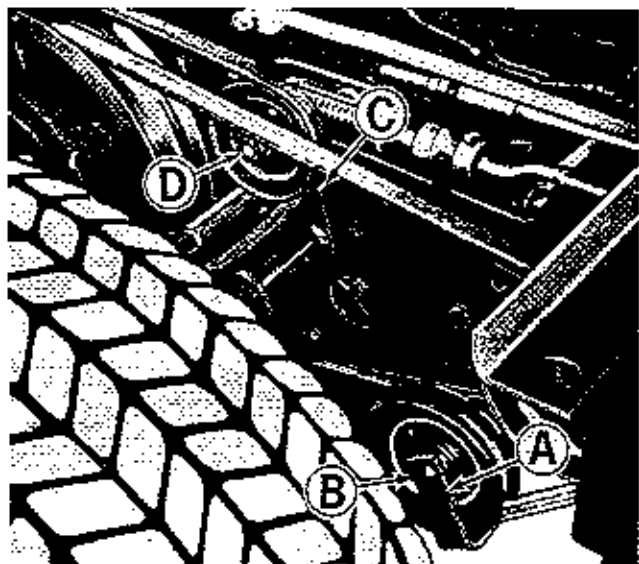


Figure 12. Belt stop adjustments located under seat deck.

**Tractor creeps rearward when control lever is in neutral.** Repeat steps 7 through 9 placing less tension on the brake band (figure 11, item C) than before.

**Cannot shift gears without grinding when shuttle control lever is in neutral.** Repeat steps 2 through 5.

## FOOT PEDAL BRAKE ADJUSTMENT

The foot pedal brake should be adjusted so that it will stop the tractor when it is moving backward, but not so tight to prevent the foot pedal from traveling far enough to disengage the clutch. If adjustment is required proceed as follows:

1. See figure 13. Use one open end wrench to hold nut (A) stationary, and another wrench to turn nut (B) counter-clockwise to loosen it slightly.

2. Turning nut (A) clockwise will give more braking action and turning it counter-clockwise will give less. The brake adjustment can best be made by using the trial and error method, and operating the tractor each time an adjustment has been made. The best adjustment can be made by turning nut (A) counter-clockwise until the foot pedal brake does not work. Then turning it clockwise, one turn at a time, until the tractor will stop satisfactorily when rolling backward. This is the correct adjustment. Further tightening may cause the brake to drag, or prevent proper clutch disengagement.

3. After you are satisfied that the adjustment is correct use one wrench to hold nut (A) stationary and another turn nut (B) clockwise to tighten the nuts securely together.

## PARKING BRAKE ADJUSTMENT

Although the transmission may help prevent the tractor from rolling when it is in gear and the engine is stopped, the parking brake should be properly adjusted and used whenever the operator leaves the tractor seat. The parking brake is actual-

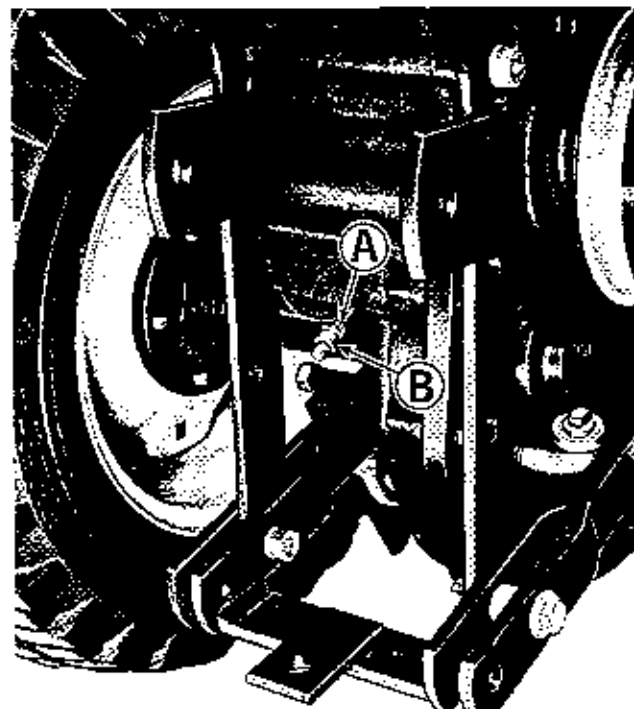


Figure 13. Brake adjustment near left rear wheel.

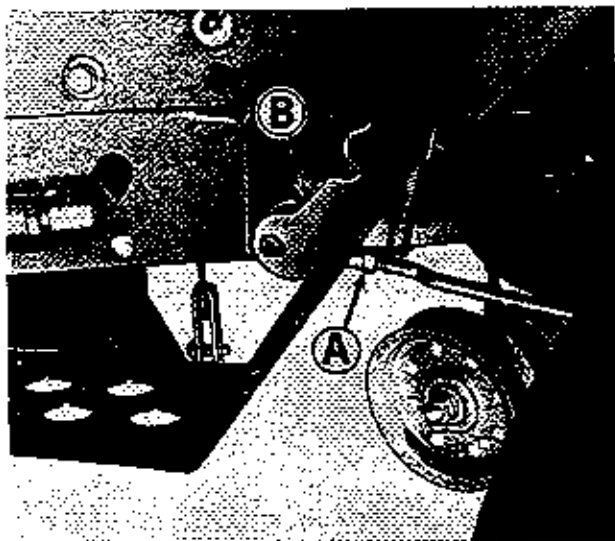


Figure 14. Parking brake adjustment on left side of tractor.

ted and adjusted independently of the foot brake. It is correctly adjusted when it will prevent the tractor from rolling either forward or backward and some resistance is felt when it is placed in the engaged position. If it is too tight, it will be difficult to place it in the engaged position. To adjust the parking brake, proceed as follows:

1. See figure 14. NOTE: ALL DIRECTIONS GIVEN FOR ADJUSTING THE PARKING BRAKE, ARE AS IF YOU ARE STANDING AT THE FRONT OF THE TRACTOR LOOKING BACK TOWARD THE PARKING BRAKE. Loosen nut (A) by turning it clockwise.
2. See figure 14. After insuring the tractor is either on a level surface or the wheels are blocked so it will not roll, pull forward on the parking brake handle (B) to disengage the parking brake.
3. Rotate parking brake handle (B) clockwise to tighten the parking brake, or counter-clockwise to loosen it. Turn the brake one complete revolution when making any adjustment. After turning the handle (B) one revolution place it in the engaged position to check it for correct adjustment. The correct engaged position is as shown in figure 14, with the handle at approximately the one o'clock position as you face it from the front of the tractor.
4. After the correct adjustment has been made, use a wrench to tighten nut (A) securely by turning it counter-clockwise.

## TRANSMISSION NEUTRAL SAFETY START SWITCH

If the engine starter will not actuate when the transmission shift lever is in neutral position or will actuate when the transmission shift lever is not in the neutral position, the neutral safety starting switch may need adjusting. Be sure power takeoff lever (s) is disengaged. Adjust transmission safety start switch as follows:

1. Raise seat deck (page 9).
2. Place transmission shift lever in the neutral START position.
3. See figure 15. Adjust carriage bolt (A) to proper height so switch (C) will make contact when transmission is in

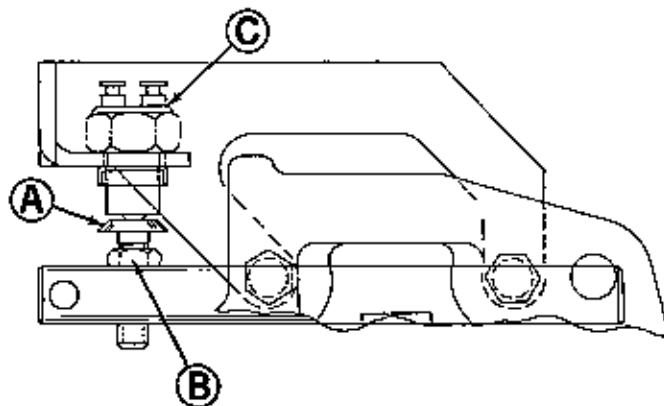


Figure 15. Neutral safety start switch located under seat deck.

neutral START position.

4. Tighten hex nut (B) against shift rod.

5. Lower seat deck and check adjustment by starting tractor.

## POWER TAKE-OFF CLUTCH ADJUSTMENT

See figure 16. The power take off clutch is properly adjusted when pulley (A) moves  $1/8''$  when the power take off control lever is engaged and disengaged. If adjustment is required, proceed as follows:

1. Raise the seat deck, by following the instructions on page 9 under Raising the Seat Deck.
2. Place the power take off clutch control lever (figure 2, item C) in the engaged position.
3. Observe the movement of pulleys (A) in relation to cup (B) as the power take off control is moved slowly from the engaged to disengaged position. If the pulleys (A) move more or less than  $1/8''$ , adjustment is required.

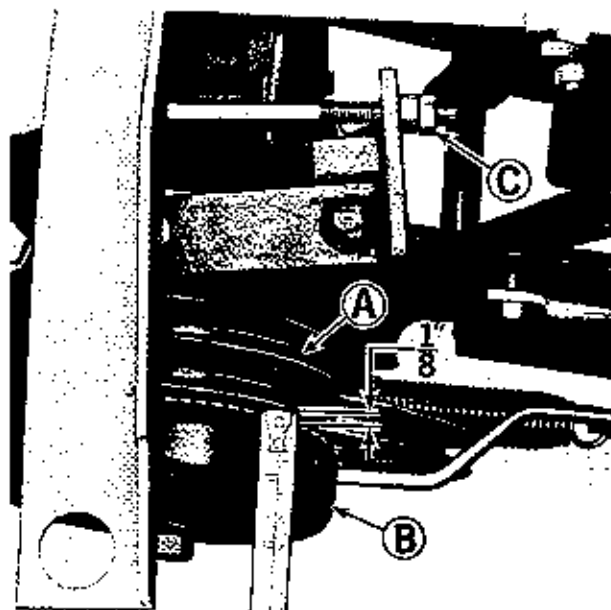


Figure 16. Power take off clutch.

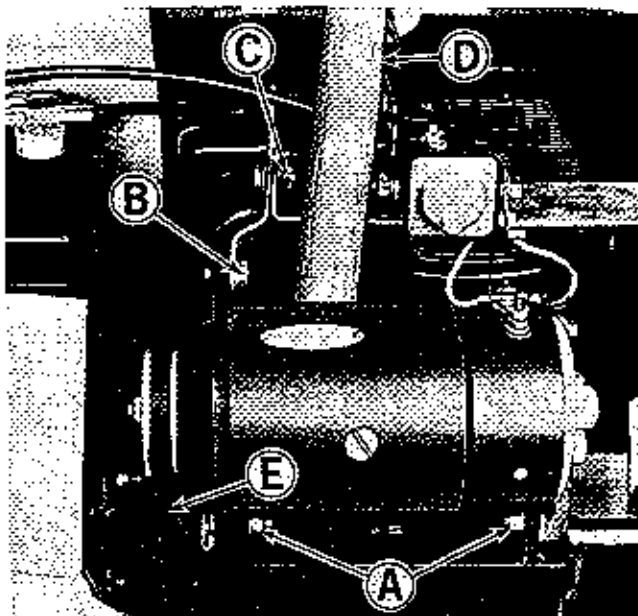


Figure 17. Generator located on right side of engine.

4. Turn the rear most nut at (C) counter-clockwise to loosen it slightly. To increase the amount pulley (A) travels turn the nuts at (C) clockwise. To decrease travel of pulley (A), turn the nuts counter-clockwise. Adjust the nuts at (C) and observe the travel of pulleys (A) as the power take off lever is engaged and disengaged. When adjustment has been made so the pulley (A) travels 1/8" tighten the rear most nut at (C) against the forward nut to lock them in place.
5. Recheck your adjustment.
6. Lower the seat deck.

## STARTER-GENERATOR BELT ADJUSTMENT

See figure 17. If the starter turns, but the engine does not rotate, the starter generator belt may need tightening. Proceed as follows:

1. Raise the tractor hood as explained on page 9 under Raising the Tractor Hood.
2. See figure 17. Loosen slightly the two nuts (A) cap screw (B) and nut (C). Use a pry bar (D) similar to the one shown between the generator and engine block to apply pressure to the generator and tighten the belt. The belt should be tight enough so thumb pressure at (E) will deflect it about 1/4".
3. While holding the pry bar to maintain tension on the belt, tighten the mounting bracket at (C) securely.
4. Actuate the starter to make sure the engine will rotate. If it does not, loosen the nut at (C) and apply more tension to the belt.
5. Tighten the two nuts at (A) and the cap screw (B) securely.

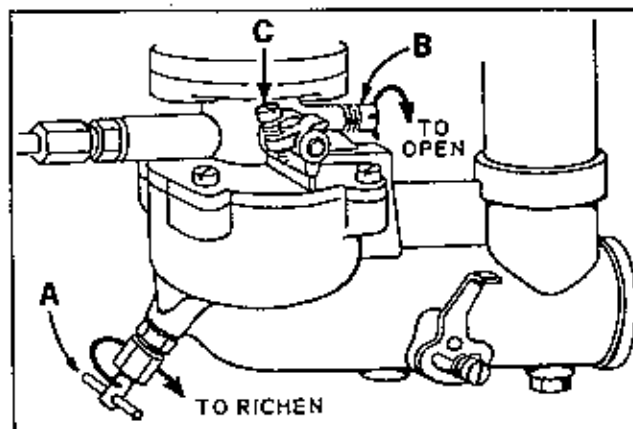


Figure 18. Carburetor adjustments.

6. Lower the hood and lock it in place.

## CARBURETOR ADJUSTMENT

The carburetor is adjusted at the factory and normally does not need adjustment unless it has been disassembled or tampered with.

### INITIAL ADJUSTMENT

Initial adjustment will permit the engine to be started and warmed up prior to final adjustment. Proceed as follows:

1. See figure 18. Turn the needle valve (A) clockwise until it just closes. **CAUTION: VALVE MAY BE DAMAGED BY TURNING IT IN TOO FAR.**
2. Open the needle valve (A) one and one half turns counter-clockwise.
3. Turn the idle valve (B) clockwise until it just closes.
4. Open idle valve (B) one half to three quarter turns.

### FINAL ADJUSTMENT

1. Start the engine and run it at full speed.
2. See figure 18. Turn needle valve (A) clockwise until engine misses, (Lean mixture), then turn it out (counter-clockwise) past the smooth operating point, until the engine runs unevenly (Rich mixture). Now turn needle valve (A) to the mid-point between the rich and lean mixture so the engine runs smoothly.
3. Move the engine speed control lever to the slow position, and set the idle speed adjusting screw (C) so a fast idle is obtained (1200 RPM). Hold the throttle in this idle position and turn the idle valve (B) clockwise (lean) and counter-clockwise (rich) until the engine idles smoothly.
4. Reset the idle speed so the engine idles at 1200 RPM. Push the engine speed control lever forward to the fast position, the engine should accelerate without hesitation or sputtering. If the engine does not accelerate properly, readjust needle valve (A) to a slightly richer mixture.



# MAINTENANCE

Your Simplicity tractor has been designed and manufactured to give you many years of dependable operation. In order for it to give you efficient, trouble free service over a long period of time the maintenance operations listed here must be performed on a regular basis. The optional hour meter provides an accurate method of determining when these services need to be performed.

A wide variety of attachments and accessories permit use of your tractor throughout the year. **BECAUSE YOUR TRACTOR IS A MULTI-SEASON TOOL, IT IS VERY IMPORTANT TO SERVICE THE ENGINE FOR THE SEASON IN WHICH IT WILL BE OPERATED.** Be sure to change to winter grade oil before making cold weather starts.

Whenever you are checking fluid levels in any area of the tractor, the readings will be much more accurate if the tractor is setting on level ground. We have provided the Scheduled Maintenance Chart on page 15 as a convenient means for you to know which services should be performed at various times. You should, of course, refer to the detailed explanation of how to perform each maintenance task until you are familiar enough with it to perform it correctly from memory.

Refer to your Briggs and Stratton operating and maintenance instructions for more specific detail on servicing the engine.

## ORDERING REPLACEMENT PARTS

Replacement parts required for performing maintenance services or repair work should be purchased from your Simplicity dealer. When ordering parts be prepared to give him the tractor and engine identification numbers. If you have not already recorded these numbers on the inside front cover of this manual, we suggest that you do so now for convenient future reference.

## EVERY 5 HOURS OF OPERATION

**INSPECT THE TRACTOR AND ENGINE:** Make a general inspection of the tractor and engine looking for loose bolts, oil leaks, low tire pressures, etc. A few minutes spent correcting a small problem could prevent a costly breakdown later.

**CHECK ENGINE CRANKCASE OIL LEVEL:** See figure 19. If the engine has been running, allow a minute or two for the oil to drain down into the crankcase before checking the oil level. Proceed as follows:

1. See figure 19. Turn the engine oil filler cap-dipstick (A) counter-clockwise and lift it out.
2. Wipe the oil from the dipstick with a clean cloth.
3. Replace the filler cap-dipstick in the filler pipe and turn the cap clockwise finger tight.
4. Remove the filler cap-dipstick and check the oil level on the dipstick.
5. If the oil is below the full line (B) shown in figure 19, add enough oil to bring the oil level up to the full mark. Use the same grade and weight of oil which is already in the

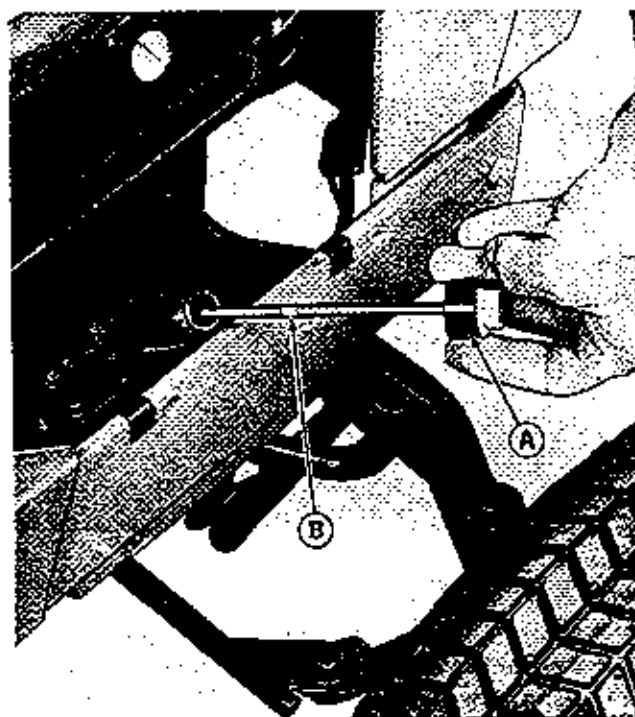


Figure 19. Checking the engine oil at right front of tractor.

engine. **DO NOT OVERFILL THE CRANKCASE.**

6. Replace the filler cap-dipstick (A) and tighten it securely.

## EVERY 25 HOURS OF OPERATION

**CLEAN ENGINE FINS AND SCREEN:** See figure 20. The blower screen (A) must be kept relatively free of chaff, grass, etc., which would restrict the flow of cooling

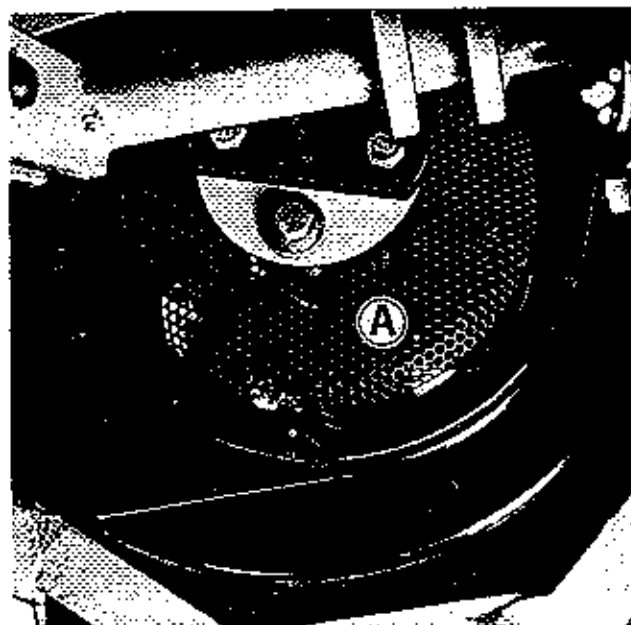


Figure 20. Engine blower screen located at rear of engine as seen from beneath tractor.

air to the engine. Material which collects can normally be removed with a brush after the engine is shut off. The screen may need to be cleaned more often when mowing dry grass.

See figure 22. All grass and chaff should be removed from the engine fins (A). **CAUTION: THE ENGINE FINS ARE VERY HOT AFTER THE ENGINE HAS BEEN OPERATED. DO NOT TOUCH THEM UNTIL THE ENGINE HAS BEEN ALLOWED TO COOL. NEVER SPRAY WATER ON A HOT ENGINE.**

**CHANGE ENGINE OIL:** Every 25 hours or more often under dusty operating conditions, change the engine oil, using an oil with designation of SC or SD or MS.

**SUMMER**  
(Above 40°F.)

Use SAE 30

If not available,  
Use SAE 10W-30  
or  
SAE 10W-40

**WINTER**

(Under 40°F.)

Use SAE 5W-20 or  
SAE 5W-30

If not available,  
Use SAE 10W or  
SAE 10W-30

(Below 0°F)  
Use SAE 10W or  
SAE 10W-30

Diluted 10% with Kerosene

1. Operate the engine at least 10 minutes or until it is warm so the oil will drain freely.
2. See figure 21. Remove the drain plug (A) from the bottom of the engine base and allow the oil to drain.
3. After the oil has completely drained from the engine replace the drain plug and tighten it securely.
4. See figure 19. Remove the filler cap-dipstick (A) and pour 2 quarts of oil into the engine through the oil filler pipe, being careful not to allow any dirt or foreign material to contaminate the oil.
5. Check the oil level. It should show up to the full mark (B) on the dipstick.

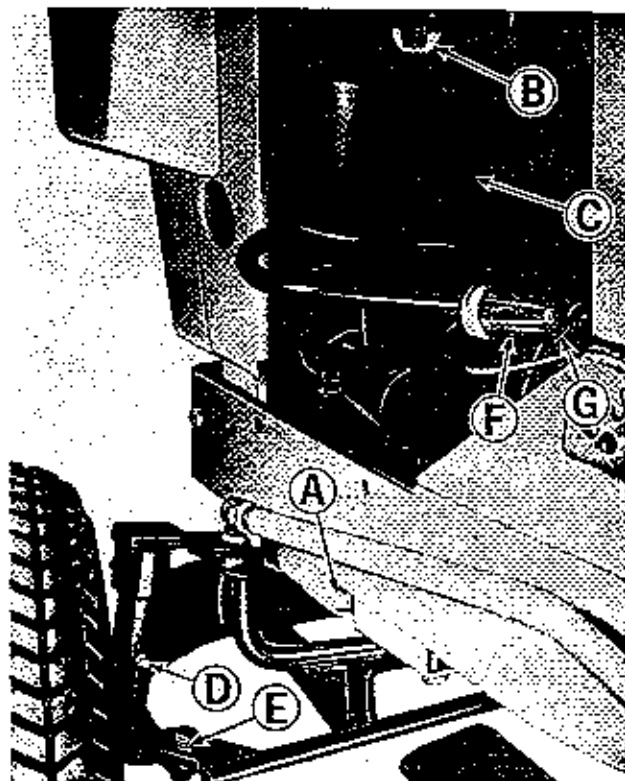


Figure 21. Left front of tractor.

6. Replace the oil filler cap-dipstick, start the engine and check for leaks.

**CLEAN ENGINE AIR FILTER:** The foam pre-cleaner should be removed and cleaned at 3 month intervals or every 25 hours of operation, whichever occurs first.

1. See figure 21. Remove the wing nut (B) and cover (C) from the air cleaner unit.
2. See figures 22 and 23. Remove the foam pre-cleaner (B) and wash it in liquid detergent and water and squeeze dry.
3. Oil the pre-cleaner with one ounce of engine oil, and

Service Required	Page	After each cycle of indicated hours			
		5	25	100	
Inspect the tractor and engine	14	●			
Check engine crankcase oil level	14	●			
Clean engine fins and screen*	14		●		
Change engine oil* (First change 5 hours)	15		●		
Clean engine air filter*	15		●		
Lubricate grease fittings*	16		●		
Lubricate pivot points*	16		●		
Check tire pressure	17		●		
Check transmission oil level	17		●		
Check bevel gearbox oil level	17		●		
Check battery water level*	18		●		
Clean or replace air filter element*	18			●	
Replace fuel filter*	18			●	
Repack front wheel bearings	18			●	
Repack planetary assembly	19			●	
Clean and reset spark plug	19			●	
Clean battery cables and connections	19			●	

\*More often under dusty and/or hot weather operating conditions.

See your Briggs and Stratton instructions for more complete information on servicing the engine.

Scheduled Maintenance Chart.

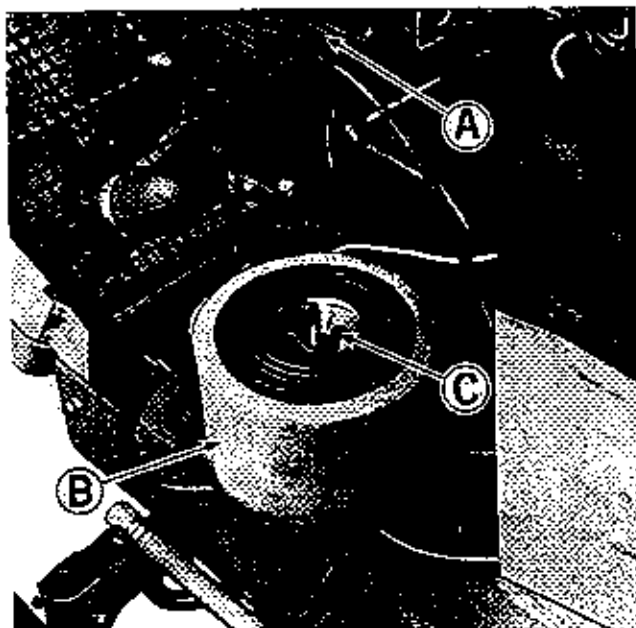


Figure 22. Air cleaner with cover removed on left side of engine.

squeeze it to distribute the oil evenly.

4. Install the foam precleaner as shown in figures 22 and 23.
5. See figure 21. Replace the air cleaner cover (C) and fasten it securely with wing nut (B).

**LUBRICATE GREASE FITTINGS:** Your tractor has 7 grease fittings which should be lubricated every 25 hours with multi-purpose lithium base gun grease. Wipe the fitting clean and lubricate each one with five shots of grease, or until the grease is seen being forced from the bearing. When operating under extremely wet or dusty conditions, lubricate more often. The grease fittings are located as follows:

LOCATION	ILLUSTRATION
Left Spindle	Figure 21, Item D
Right Spindle	Figure 24, Item A
Clutch-brake Pedal	Figure 24, Item B
Steering Bracket	Figure 25, Item A
Right Axle Hub	Figure 26, Item A
Right Axle	Figure 27, Item A

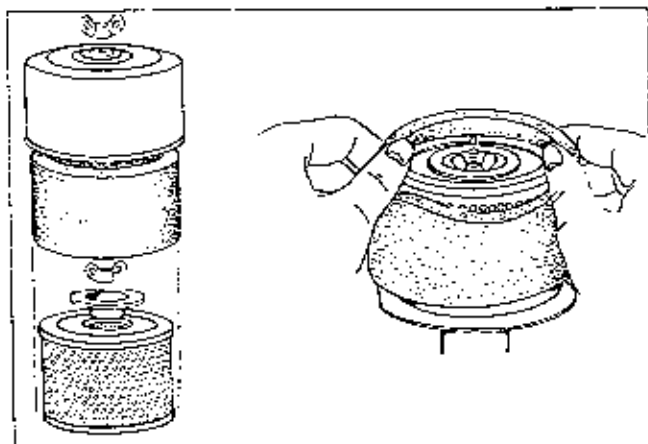


Figure 23. Air cleaner assembly disassembled.

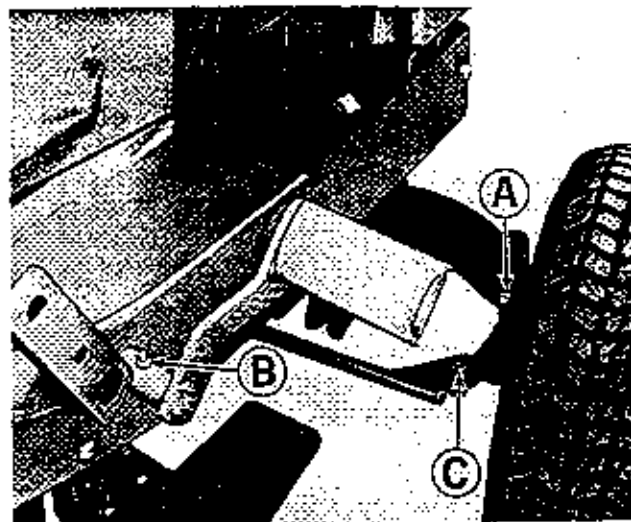


Figure 24. Right front corner of tractor.

**LUBRICATE PIVOT POINTS:** Every 25 hours a film of grease should be placed at the end of the neutral start safety switch, on the steering gear and on the shuttle drive brake detent to provide smoother operation and help reduce wear. They are located as follows:

LOCATION	ILLUSTRATION
Neutral Safety Start Switch	Figure 15, Item C
Steering Gear	Figure 25, Item B
Shuttle Drive Brake Detent	Figure 9, Items C & D

A few drops of engine oil placed on the tractor pivot points will help reduce wear and provide smoother operation of the tractor and its controls. Every 25 hours or more often under wet or dusty operating conditions, place a few drops of SAE 30 engine oil on the pivot points, being careful not to get oil on belts or pulleys as it may cause them to slip. Pivot points are located as follows:

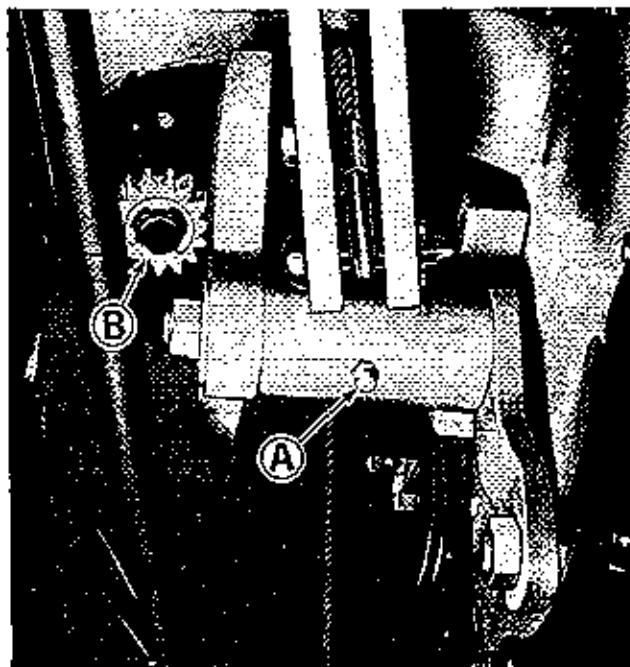


Figure 25. Steering gear as seen from beneath tractor.



Figure 26. Grease zerk located inside right wheel hub.

LOCATION	ILLUSTRATION
Left Tie Rod End	Figure 21, Item E
Right Tie Rod End	Figure 24, Item C
Front Axle Pivot	Figure 28, Item A
Power Take Off Pivot	Figure 29, Item A

**CHECK TIRE PRESSURE:** Tires will last longer and perform better if they are kept properly inflated. They should be inflated as follows, Front tires 12 to 15 PSI. Rear tires 6 - 8 PSI.

**CHECK TRANSMISSION OIL LEVEL:** See figure 30. Remove pipe plug (A) to check the oil level in the axle housing. Oil should be level with the bottom of the threads. If it is not, add SAE 90 weight transmission oil. Replace the plug and tighten it securely.

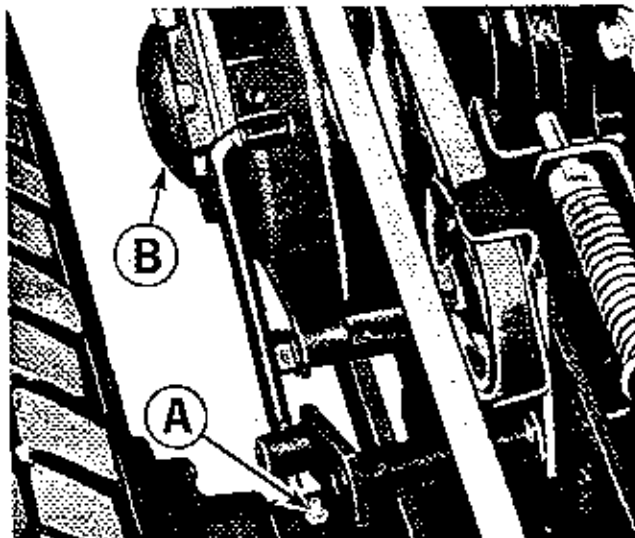


Figure 27. Grease zerk on right rear axle.

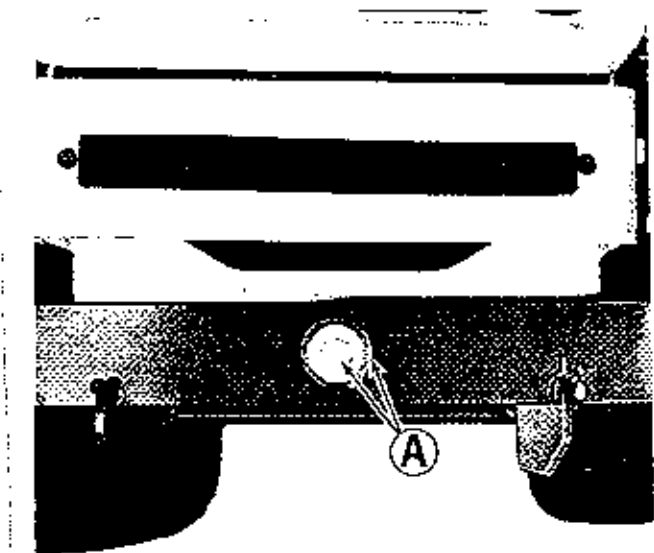


Figure 28. Front of tractor showing axle pivot.

If it should be necessary to drain the axle housing, the drain plug is located at (B). Always tighten it securely when replacing to prevent oil leakage.

**CHECK BEVEL GEAR BOX OIL LEVEL:** See figure 31. The bevel gear box fill plug is located at (A). The gear box is properly filled when SAE 90 weight transmission oil is added until it touches the end of the fill plug dipstick assembly. Do not screw plug into housing when measuring for oil level. Drain bevel gear housing by removing drain plug (B). To prevent oil leakage, securely tighten both fill and drain plugs. The fill plug assembly is vented.

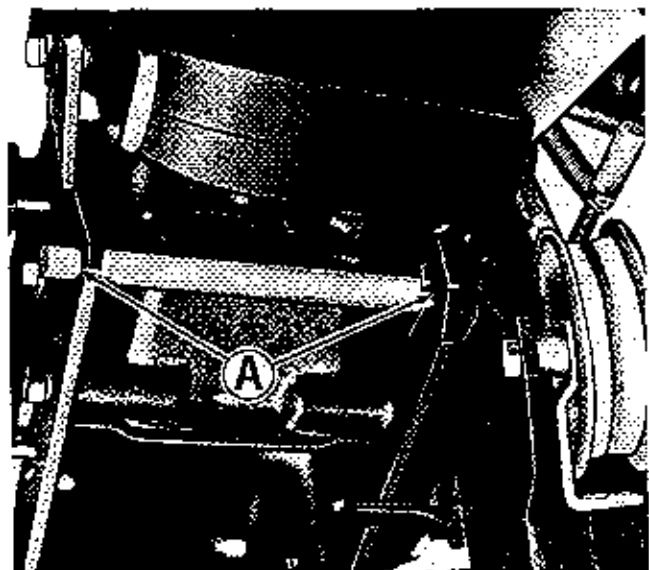


Figure 29. Power take off idler pulley, pivot points as seen from beneath tractor.

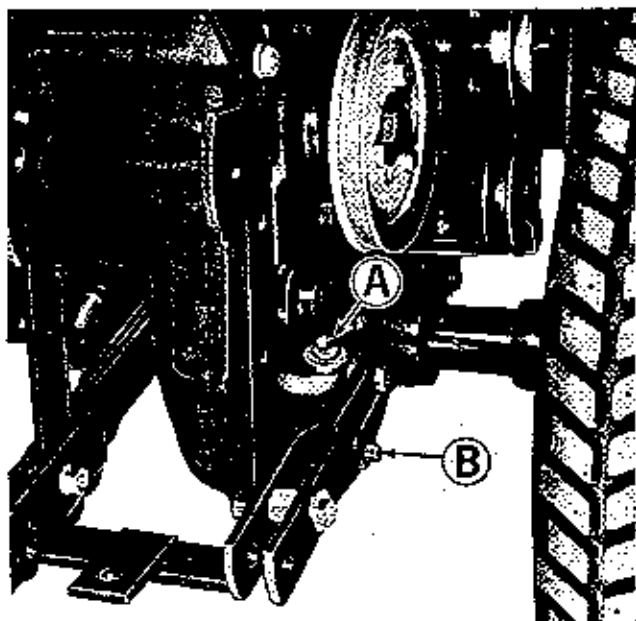


Figure 30. Rear of tractor showing axle drive housing.

**CHECK BATTERY WATER LEVEL:** See figure 32. Every 25 hours, or more often when operating the tractor in temperatures above 72°F, remove the 6 battery caps (A) and check the water level in each cell. When the battery is in use, water evaporates from it. Never allow the water level in the battery to get below the top of the plates. Fill the battery to the marking ring with distilled water as shown in figure 32. If distilled water is not available, clean tap water may be used.

### EVERY 100 HOURS OR ONCE A YEAR

#### CLEAN OR REPLACE AIR FILTER ELEMENT:

The engine air cleaner is made up of two types of filters. The foam filter (Figure 22, Item B) and a dry filtering element. The foam element should be cleaned and oiled every 25 hours as explained under the Every 25 Hour Maintenance

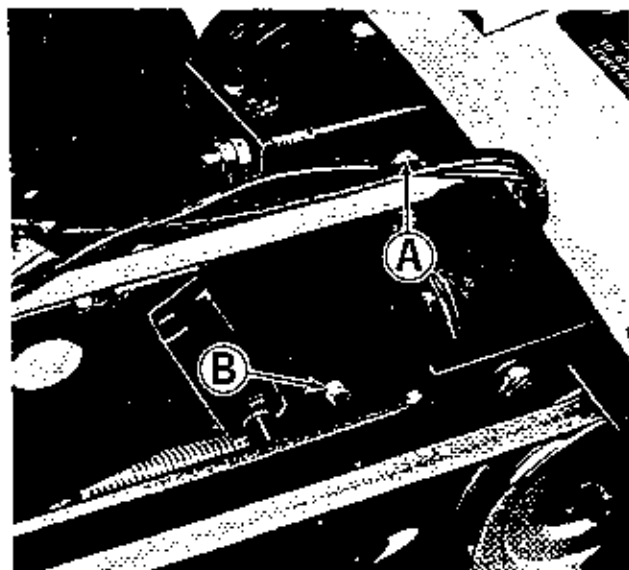


Figure 31. Bevel gear housing located under seat deck.

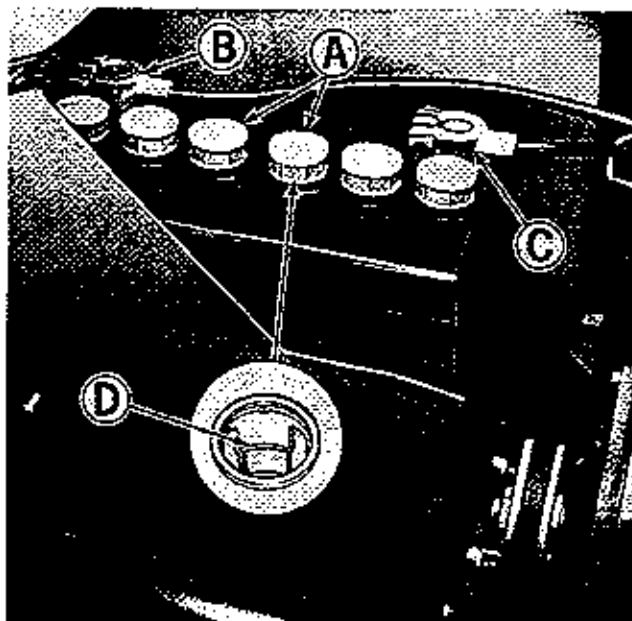


Figure 32. Tractor battery visible when hood is raised.

Services. Once a year or every 100 hours, whichever occurs first, the paper element should be removed and cleaned or replaced. Proceed as follows:

1. See figure 21. Remove wing nut (B) and cover (C) from the air cleaner.
2. See figures 22 & 23. Remove the foam element (B) and clean and oil it as described in the Every 25 Hour Maintenance Service.
3. Remove wing nut (C) and remove the paper element from the air cleaner.
4. Clean the element by tapping it gently on a flat surface. If it is very dirty, replace the element or wash it in detergent, and water rinse until water remains clear. The element must be dried thoroughly before using.
5. See figures 22 & 23. Replace the paper element and wing nut (C) and tighten it securely.
6. Install the foam element (B) over the paper element as shown in figure 22.
7. See figure 21. Replace cover (C) and wing nut (B) and tighten securely.

**REPLACE FUEL FILTER:** See figure 21. Every 100 hours or more often under dirty field conditions, the fuel filter (F) should be replaced. **CAUTION: DO NOT REMOVE THE FUEL FILTER WHEN THE ENGINE IS HOT, AS SPILLED GASOLINE MAY IGNITE. USE CARE WHEN REMOVING AND INSTALLING CLAMPS (G), NOT TO SPREAD THEM ANY MORE THAN NECESSARY AS THEY MAY TAKE A SET AND NOT HOLD THE HOSE TO THE FILTER PROPERLY.**

In extremely dirty fuel conditions, the fuel filter may become filled with dirt and restrict fuel flow. The filter can be washed in solvent and blown out with compressed air and used.

**REPACK FRONT WHEEL BEARINGS:** Every 100 hours of operation or once a year, the front wheel bearings should be removed and repacked with grease. Proceed as follows:

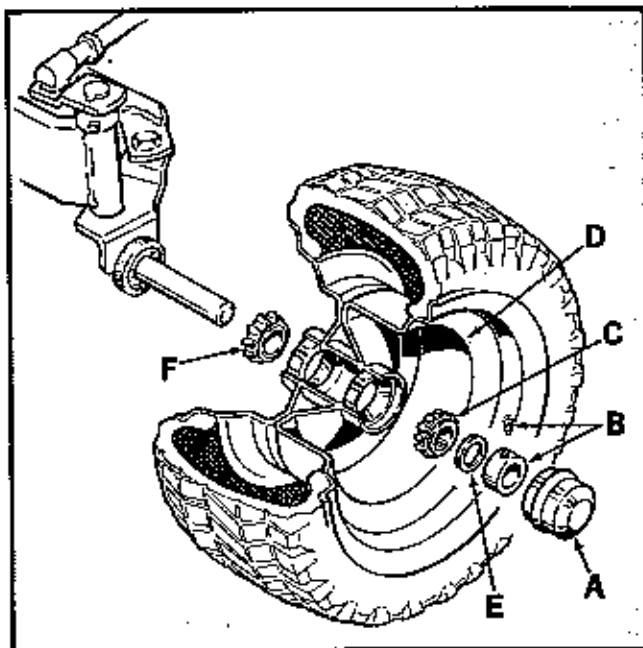


Figure 33. Left front spindle and axle assembly.

1. Block or jack the front of the tractor so the wheel you are to work on is not supporting the tractor.
2. See figure 33. Remove the grease cup (A) by prying off with a screw driver.
3. Use an Allen wrench to loosen the set screw in collar (B).
4. Remove the set collar (B), spacer (E), outer bearing (C), wheel (D), and inner bearing (F). It is best to keep the two bearings separate so you can put them back in their original place. Wash the bearing shaft, bearings, and wheel housing with a suitable solvent and wipe dry. Inspect the seal of the inner wheel. Replace it if it is damaged. **NOTE: IT IS EXTREMELY IMPORTANT THAT THE BEARINGS AND GREASE THAT IS PACKED IN THEM BE KEPT CLEAN.**
6. Using the palm of your hand, force a good quality wheel bearing grease into the bearings. Place a coating of grease on the seal where it turns in the hub.
7. Replace the inner bearing and slide the wheel on the axle.
8. Replace the outer bearing, spacer, and set collar. Spin the wheel slowly and press in on the set collar to seat the bearing. Be sure the seal on the inside of the wheel is properly seated. Hold in on the set collar and tighten the Allen

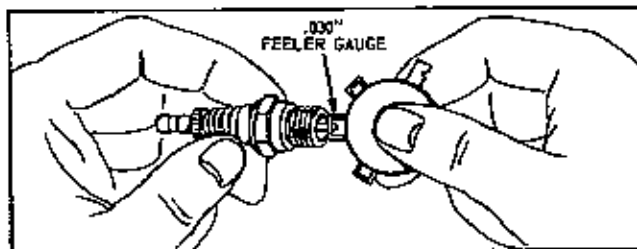


Figure 34. Setting spark plug gap.

screw securely.

9. Replace the grease cup.

**REPACK PLANETARY ASSEMBLY:** Every 100 hours of operation or once a year, the planetary assembly should be repacked with #2 lithium grease.

1. See figure 27. Remove cap (B) by prying off with a screwdriver.
2. Use caution in repacking the planetary assembly. It is extremely important that the grease being used is kept clean.
3. Replace the cap (B).

**CLEAN AND REPLACE SPARK PLUG:** See figure 34. Every 100 hours the spark plug should be removed, cleaned, and the gap reset at .030". When the spark plug is worn out, replace it with AC GC 46, Autolight A 71 or Champion J-8. **CAUTION: BLAST CLEANING OF SPARK PLUGS IN MACHINES THAT USE ABRASIVE GRIT IS NOT RECOMMENDED. SPARK PLUGS SHOULD BE CLEANED BY SCRAPING OR WIRE BRUSHING, AND WASHING WITH A COMMERCIAL SOLVENT OR GASOLINE.**

**CLEAN BATTERY CABLES:** See figure 32. Every 100 hours or once a year the battery cables (B) and (C) should be removed and cleaned. **CAUTION: ALWAYS REMOVE THE NEGATIVE GROUND CABLE (C) FIRST AND REPLACE IT LAST.** Clean the battery with soap and water to remove all dirt, oil, and corrosion from the battery surface. Do not allow foreign material or cleaning solution to get inside the battery. Clean the terminals and battery clamps with a wire brush. Replace and tighten securely. After tightening coat the terminals and clamps liberally with a coat of grease or vaseline to inhibit corrosion.

## ACCESSORIES

There are many optional accessories available for your Simplicity tractor through your Simplicity dealer. They will make your tractor perform better, or easier to operate when using various attachments. For recommended accessories to use, when your tractor is to be operated with an attachment, see the Operation Chart on page 7. See your Simplicity dealer if you wish to purchase any of the following:

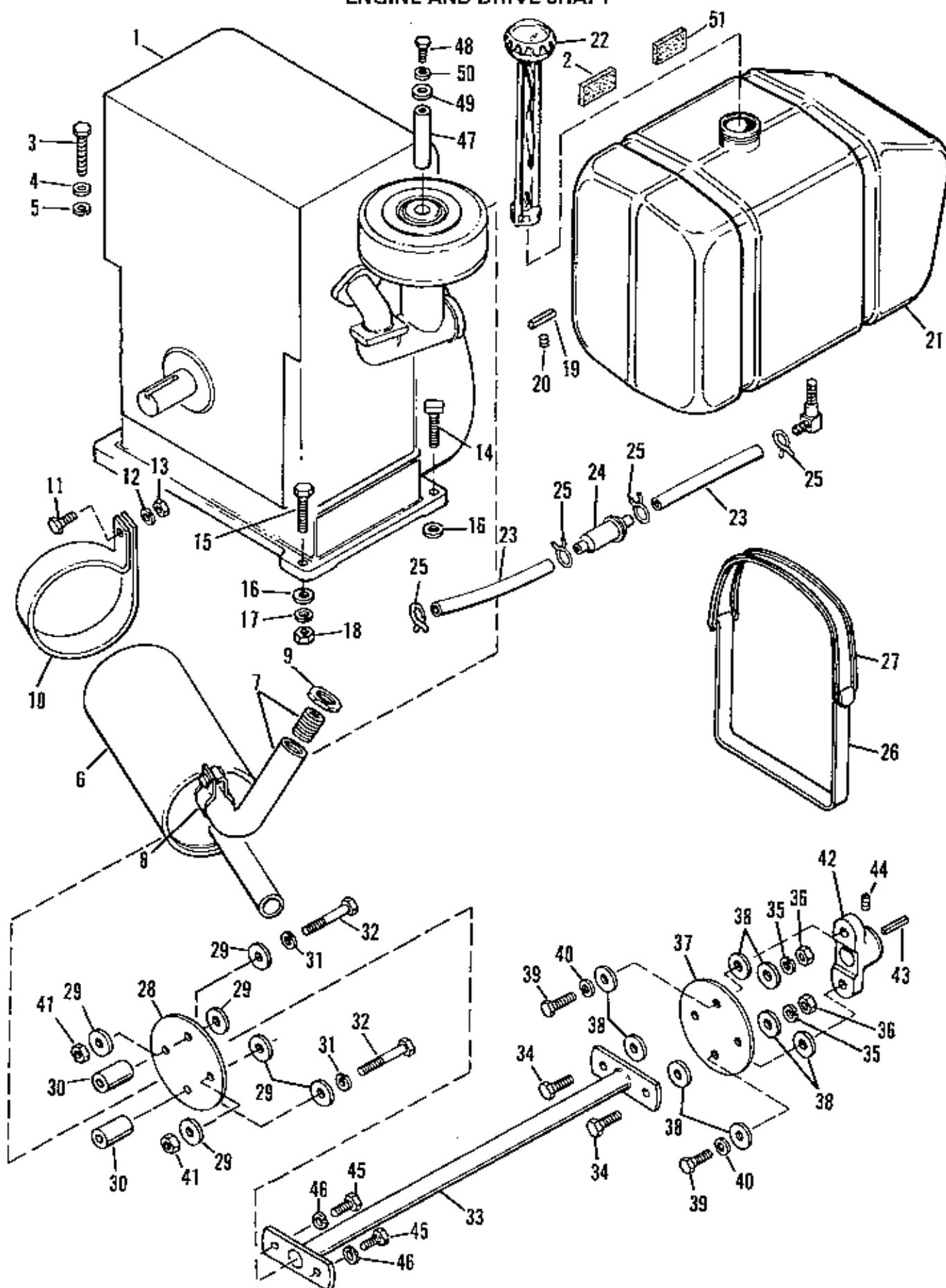
BALL HITCH-REAR  
FRONT LIGHT KIT  
REAR LIGHT KIT  
HUB CAPS (Set of 4)  
WHEEL WEIGHTS-REAR  
WHEEL WEIGHTS-FRONT  
POWER LIFT KIT  
DUAL LIFT LEVER  
REAR LIFT KIT  
TIRE CHAINS  
CUSTOMER TOOL KIT (Wrenches, pliers & screwdrivers)  
HOUR METER

## ATTACHMENTS

To make your Simplicity tractor most useful to you, Simplicity manufactures a complete line of attachments for it. They are available through your Simplicity dealer. Contact him if you wish to purchase any of the following:

42" & 48" ROTARY MOWERS  
46" SICKLE BAR MOWER  
VACUUM COLLECTOR  
CART COVER (High capacity)  
CART COVER (Low profile)  
ROVING NOZZLE FOR VACUUM COLLECTORS  
CART-DUMP 1000 POUND CAPACITY  
CART-DUMP 400 POUND CAPACITY  
38" LAWN REVITALIZER (Thatcher, aerator)  
36" & 42" ROTARY SNOW THROWERS  
46" SNOW PLOW AND DOZER BLADE  
42" SNOW PLOW AND DOZER BLADE  
SNOW CAB  
36" ROTARY TILLER & 10" TINE EXT.  
10" PLOW  
CULTIVATOR  
SPRING TOOTH HARROW  
42" GRADER BLADE

# ENGINE AND DRIVE SHAFT



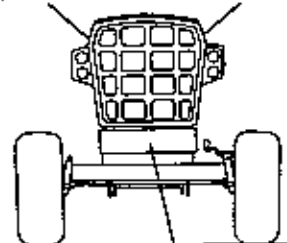


# ENGINE AND DRIVE SHAFT

Ref. No.	Part No.	Qty. Req.	Description
1		1	Engine
2	173335	1	Pad, Fuel Tank
3	715068	2	Hex Capscrew, 5/16"-18 x 2"
4	719002	2	Plain Washer, 5/16"
5	720001	2	Lockwasher, 5/16"
6	170456	1	Muffler, Exhaust
7	172195	1	Elbow & Nipple Assembly
8	172061	1	Muffler Clamp
9	154378	1	Lock Nut
10	171880	1	Strap, Muffler
11	705012	1	Hex Capscrew, 5/16"-18 N.C. x 5/8"
12	720001	1	Lockwasher, 5/16"
13	717001	1	Full Hex Nut, 5/16"-18 N.C.
14	172455	1	Rec't. Head Screw, 3/8"-16 N.C. x 1-5/16"
15	705009	3	Hex Capscrew, 3/8"-16 N.C. x 1-1/2"
16	719001	4	Plain Washer, 3/8" Std.
17	720002	4	Lockwasher, 3/8"
18	717003	4	Full Hex Nut, 3/8"-16 N.C.
19	171241	1	Key
20	713504	1	Cup Pt. Socket Head Set Screw, 5/16"-18 N.C. x 3/8"
21	171115	1	Tank, Fuel
22	171252	1	Cap, Fuel Tank
23	173204	2	Hose, Fuel, Flexible
24	173206	1	Fuel Filter
25	154372	4	Clamp, Hose
26	171330	2	Strap, Tank
27	172744	2	Strap, Fuel Tank
28	173026	1	Coupling
29	157424	8	Washer, Special
30	8161056	2	Bearing, Pivot Block
31	720002	2	Lockwasher, 3/8"
32	715036	2	Hex Capscrew, 3/8"-16 x 2-1/4"
33	172328	1	Shaft Assy., Drive
34	172677	2	Hex Capscrew, 3/8"-16 x 1-1/8"
35	720002	2	Lockwasher, 3/8"
36	717003	2	Full Hex Nut, 3/8"-16
37	173026	1	Coupling
38	157424	8	Washer, Special
39	172677	2	Hex Capscrew, 3/8"-16 N.C. x 1-1/8"
40	720002	2	Lockwasher, 3/8"
41	717003	2	Full Hex Nut, 3/8"-16 N.C.
42	172264	1	Flange, Drive Shaft
43	157427	1	Key, Drive Shaft
44	715049	1	Cup Pt. Socket Head Set Screw, 3/8"-24 N.F. x 3/8"
45	172677	2	Hex Capscrew, 3/8"-16 N.C. x 1-1/8"
46	720002	2	Lockwasher, 3/8"
47	157126	1	Air Cleaner Spacer
48	715018	1	Hex Capscrew, 1/4"-20 N.C. x 5/8"
49	719006	1	Plain Washer, 1/4"
50	720003	1	Lockwasher, 1/4"
51	106582	1	Gasket, Felt

## DECALS

178476 - FILM, BARON 178475 - FILM, BARON

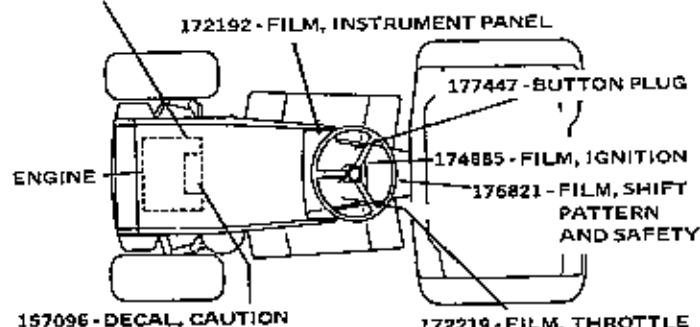


124039 - FILM, SIMPLICITY

172816 - FILM, BRAKE  
177645 - PLATE, SERIAL NO.

### FRONT VIEW

172707 - FILM, OIL LEVEL INST.

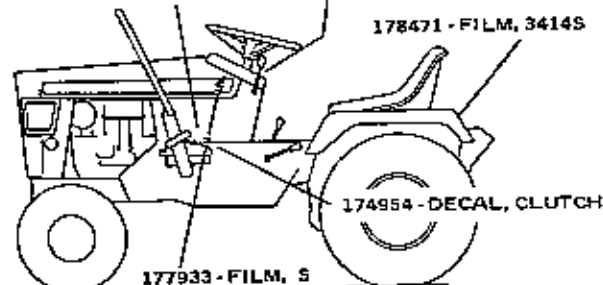


157096 - DECAL, CAUTION

172219 - FILM, THROTTLE

### TOP VIEW

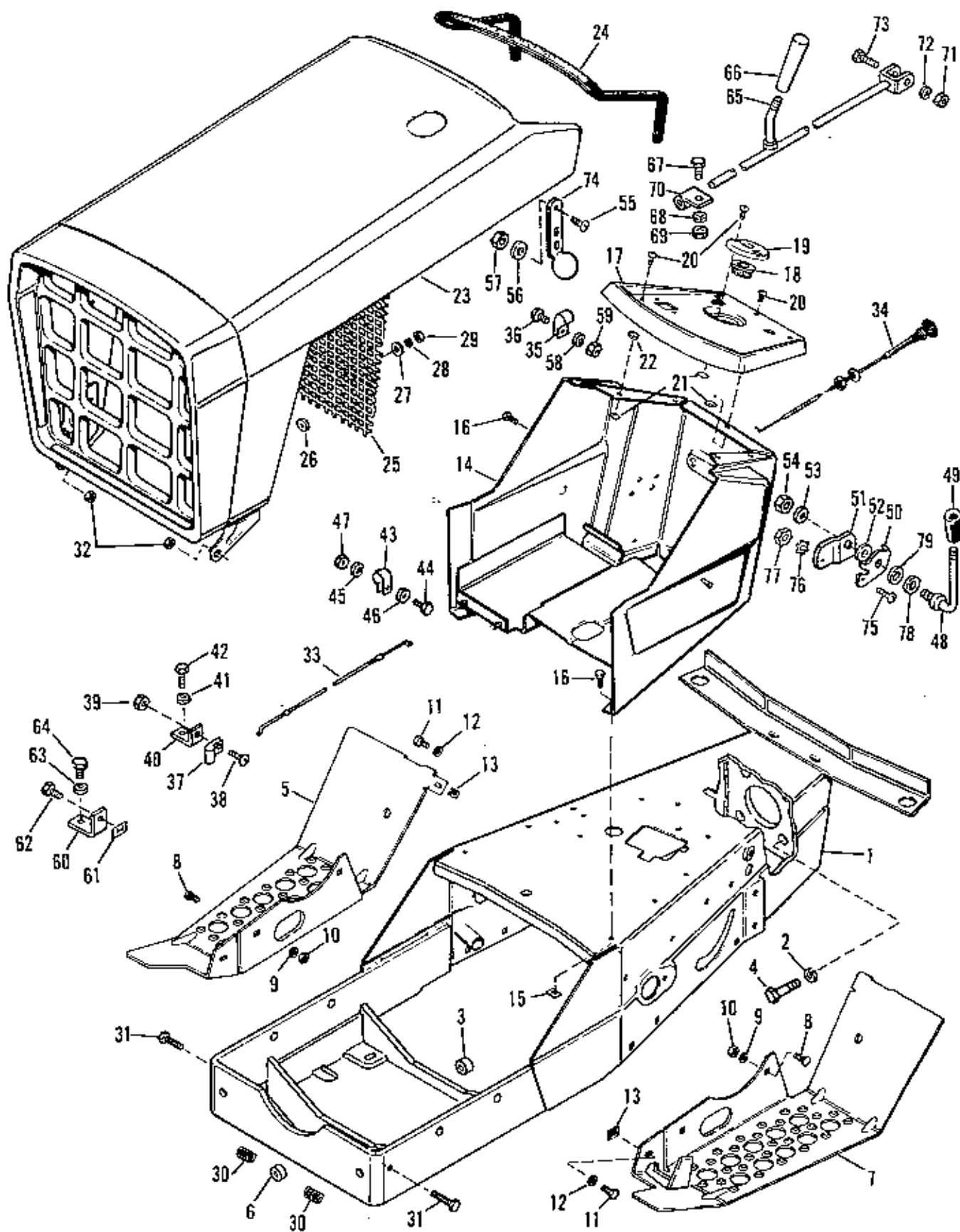
174887 - FILM, FORWARD & REVERSE  
175216 - FILM, LIFT LEVER



177933 - FILM, S

### LEFT SIDE VIEW

# FRAME, HOOD, GRILL & INSTRUMENT PANEL

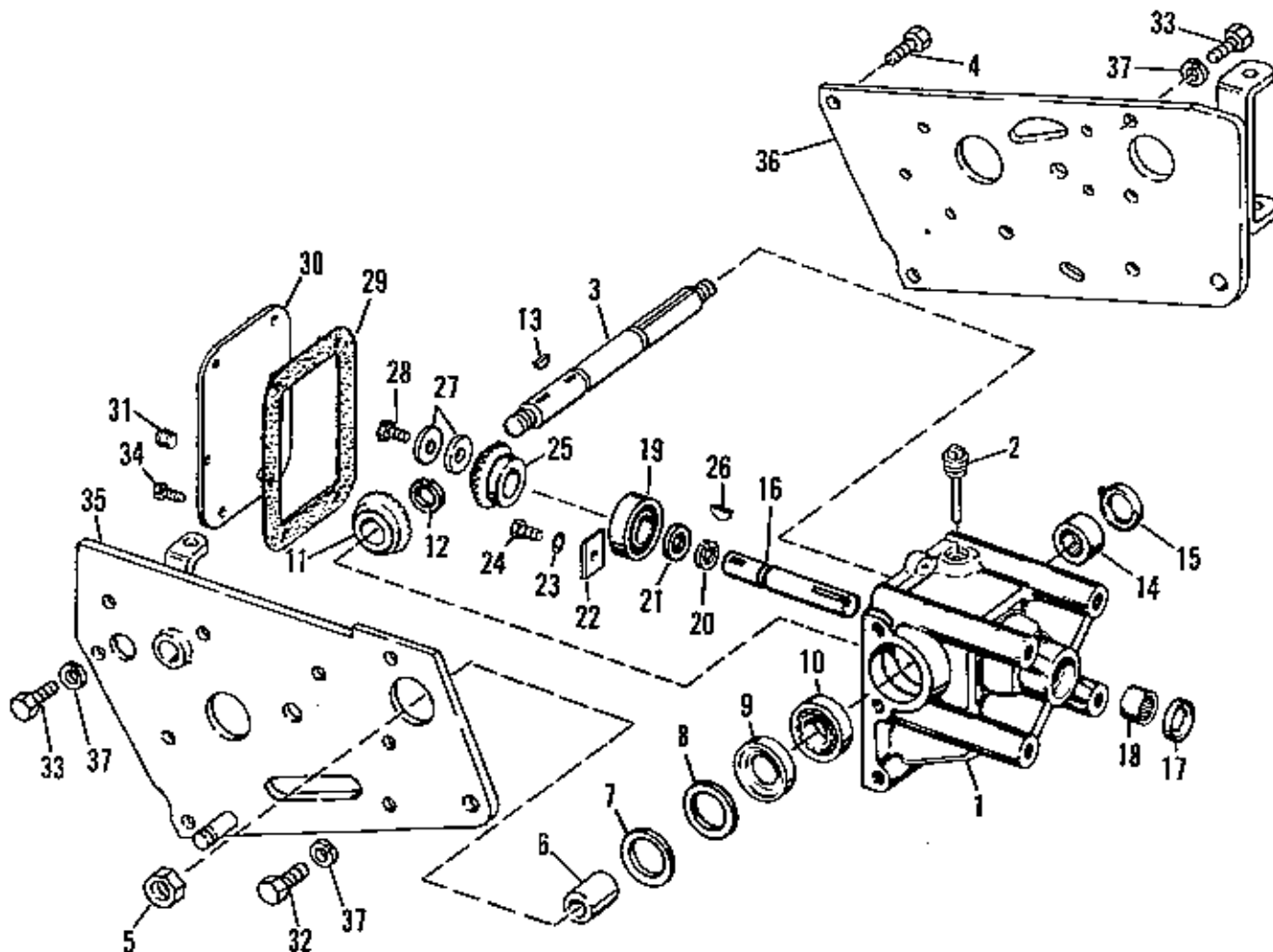


# FRAME, HOOD, GRILL & INSTRUMENT PANEL

Ref. No.	Part No.	Qty. Req.	Description
1	174095	1	Frame Assembly
2	720006	4	Lockwasher, 7/16"
3	154289	1	Bushing
4	705039	4	Hex Capscrew, 7/16"-14 N.C. x 1-1/2"
5	171271	1	Foot Rest, R.H.
6	174662	1	Bushing
7	176628	1	Foot Rest, L.H.
8	702015	6	Carriage Bolt, 5/16"-16 N.C. x 3/4"
9	720001	6	Lockwasher, 5/16"
10	717001	6	Full Hex Nut, 5/16"-18 N.C.
11	705017	2	Hex Capscrew, 5/16"-18 N.C. x 3/4"
12	720001	2	Lockwasher, 5/16"
13	718024	2	Nut, Tinnerman, 5/16"-18 N.C.
14	171266	1	Dash Assembly
15	718038	8	Nut, Tinnerman
16	714031	11	Hex Head Self Tapping Screw, No. 14 AB x 3/4"
17	171231	1	Panel, Instrument
18	157077	1	Bushing, Steering
19	172008	1	Plate, Steering Adj.
20	711002	6	Round Head Phillips Screw, 1/4"-20 N.C. x 1/2"
21	718043	6	Nut, Tinnerman, 1/4"-20 N.C.
22	719007	4	Plain Washer
23	171226	1	Grille & Hood Assembly
24	172935	1	Molding, Hood
25	171232	1	Screen, Grille
26	171804	2	Washer
27	172742	2	Washer
28	721003	4	Lockwasher, Shakeproof No. 10
29	717023	4	Full Hex Nut, No. 10-24 N.F.
30	8191047	2	Spring
31	705009	2	Hex Capscrew, 3/8"-16 N.C. x 1-1/2"
32	717510	2	Hex Lock Nut, Center, 3/8"-16 N.C.
33	171355	1	Throttle Control
34	171334	1	Choke Control
35	158475	1	Clip, Bowden Wire
36	714005	1	Self Tapping Rd. Hd. Screw, No. 10-24 N.C. x 1/2"
37	158475	1	Clip, Bowden Wire
38	710004	1	Rd. Hd. Machine Screw, No. 10-32 N.F. x 3/8"
39	717007	1	Full Hex Nut, No. 10-32 N.F.

Ref. No.	Part No.	Qty. Req.	Description
40	157315	1	Bracket, Throttle Cable
41	720003	1	Lockwasher, 1/4"
42	714021	1	Self Tapping Rec. Hex Hd. Screw, 1/4"-20 N.C. x 5/8"
43	122186	1	Clamp
44	705015	1	Hex Capscrew, 1/4"-20 N.C. x 5/8"
45	720003	1	Lockwasher, 1/4"
46	719006	1	Plain Washer, 1/4" Std.
47	717005	1	Full Hex Nut, 1/4"-20 N.C.
48	172040	1	Throttle Handle
49	172038	1	Knob
50	171848	1	Stop Throttle
51	158424	1	Arm Throttle
52	159107	1	Washer
53	721602	1	Washer Lock Dished Type, 3/8"
54	717510	1	Full Lock Hex Nut, 3/8"-16 N.C.
55	711003	2	Phillips Truss Head Screw, No. 10-32 x 1/2"
56	171804	2	Washer
57	717507	2	Gripco Lock Nut, No. 10-32
58	720007	2	Lockwasher, No. 12
59	717023	2	Full Hex Nut, No. 10-24
60	158611	1	Bracket, Pulley Guard
61	718043	1	Nut, Tinnerman
62	715057	1	Hex Capscrew, 1/4"-20 x 3/4"
63	719007	1	Plain Washer, 3/16"
64	714032	1	Hex Head Screw, No. 14 x 1-1/4"
65	171559	1	Shifter Rod Assembly
66	164180	1	Handle
67	715026	1	Hex Capscrew, 5/16"-18 x 1-1/2"
68	720001	1	Lockwasher, 5/16"
69	717001	1	Full Hex Nut, 5/16"-18
70	157020	1	Shift Rod Guide Assembly
71	717005	1	Full Hex Nut, 1/4"-20
72	720003	1	Lockwasher, 1/4"
73	715018	1	Hex Capscrew, 1/4"-20 x 5/8"
74	171600	2	Hood Strap
75	710002	1	Round Head Machine Screw, No. 10-32 x 1/2"
76	721003	1	Lockwasher, Shakeproof No. 10
77	717007	1	Full Hex Nut, No. 10-32
78	101025	1	Washer
79	156116	1	Washer

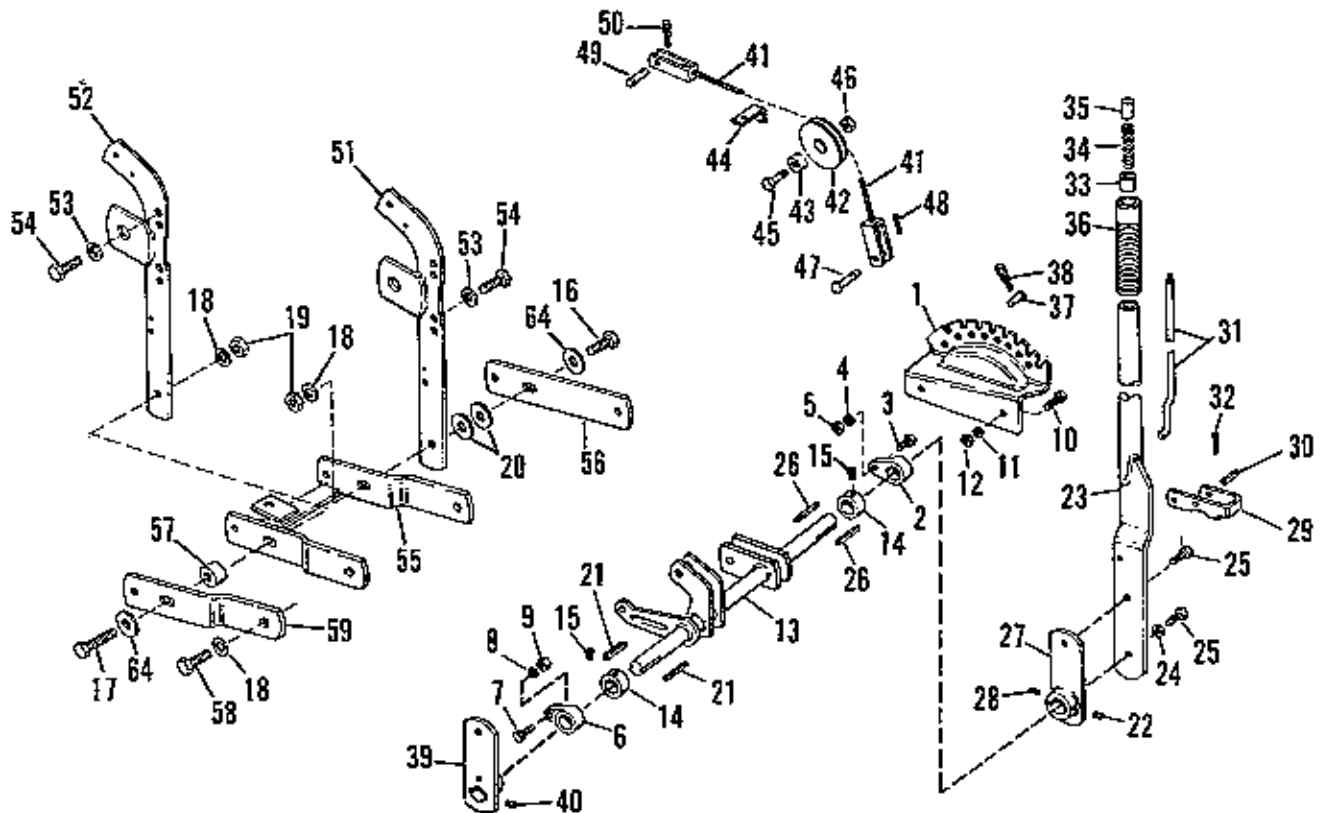
# BEVEL GEAR HOUSING



Ref. No.	Part No.	Qty. Req.	Description
1	171797	1	Bevel Gear Housing, w/Bearings
2	178105	1	Plug Assy., Oil Fill
3	173966	1	Driven Shaft
4	715092	4	Hex Capscrew, 7/16"-14 x 1-1/4"
5	717517	1	Hex Jam Nut
6	171792	1	Spacer
7	171790	5	Shim (As Required)
8	171791	1	Shim
9	171787	1	Oil Seal
10	172256	1	Ball Bearing
11	171796	1	Bevel Driven Gear
12	172206	1	Retaining Ring
13	725003	1	Key
14	154279	1	Needle Bearing
15	118117	1	Oil Seal
16	172750	1	Drive Shaft
17	118117	1	Oil Seal
18	154279	1	Needle Bearing

Ref. No.	Part No.	Qty. Req.	Description
19	172256	1	Ball Bearing
20	172206	1	Retaining Ring
21	172753	1	Washer
22	154040	1	Bearing Clamp Plate
23	720001	1	Lockwasher, 5/16"
24	705012	1	Hex Capscrew, 5/16"-18 x 5/8"
25	172752	1	Bevel Driven Gear
26	725003	1	Key
27	177649	2	Washer, Compression
28	154281	1	Hex Capscrow, 5/16"-18 x 3/4"
29	154282	1	Gasket
30	178104	1	Housing Cover Assembly
31	726002	1	Pipe Plug
32	715136	6	Hex Capscrew, 7/16"-14 x 1"
33	715092	4	Hex Capscrew, 7/16"-14 x 1-1/4"
34	707003	6	Hex Capscrew, 1/4"-20 x 5/8"
35	175127	1	Right Hand Side Plate Assy.
36	174829	1	Left Hand Side Plate Assy.
37	720006	14	Lockwasher, 7/16"

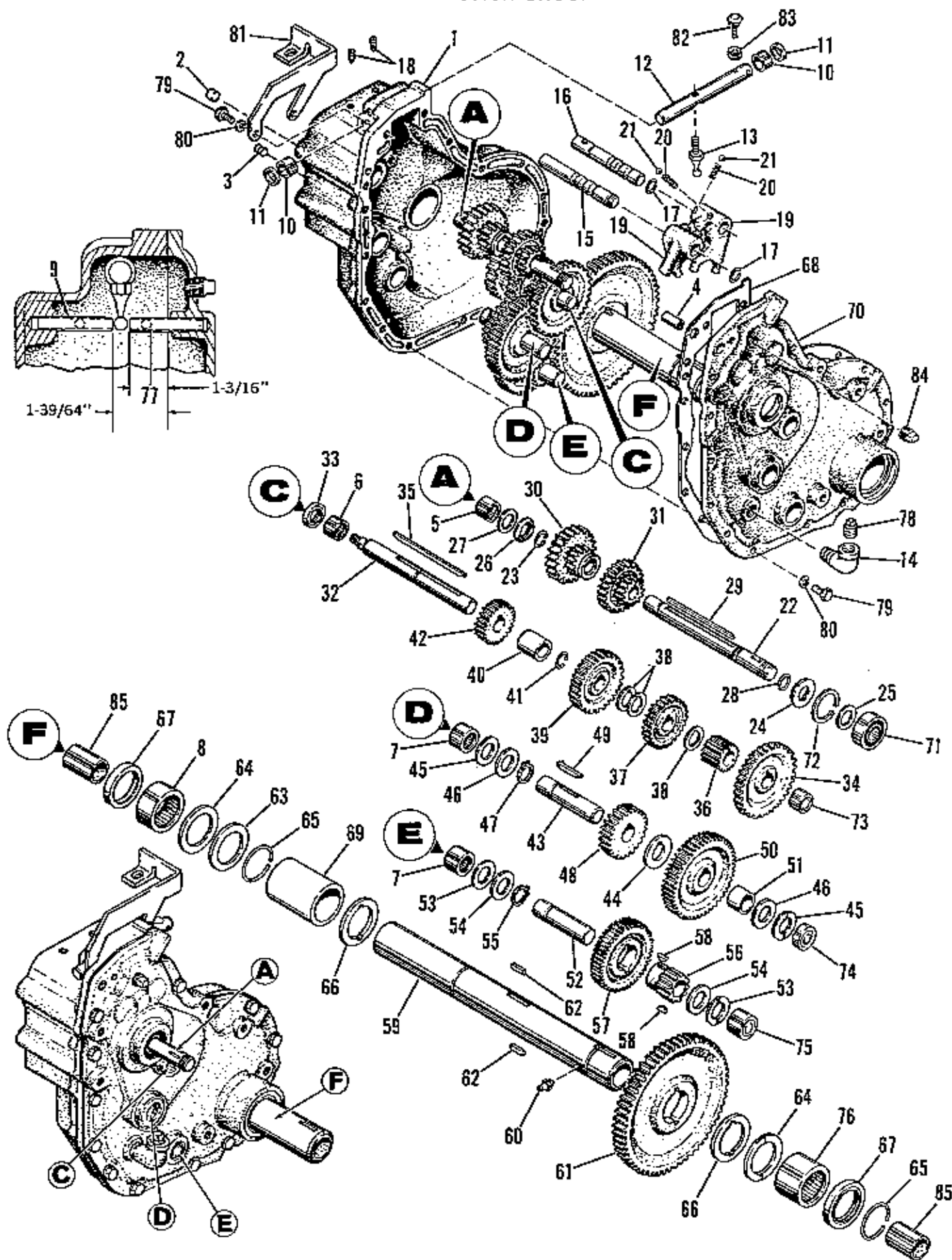
# REAR LIFT DRAW BAR GROUP



Ref. No.	Part No.	Qty. Req.	Description
1	171599	1	Lift Lever Quadrant
2	170975	1	Lift Lever Bearing
3	715046	1	Hex Capscrew, 5/16"-18 x 1-1/4"
4	720001	1	Lockwasher, 5/16"
5	717001	1	Full Hex Nut, 5/16"-18
6	170975	1	Lift Lever Bearing
7	715046	1	Hex Capscrew, 5/16"-18 x 1-1/4"
8	720001	1	Lockwasher, 5/16"
9	717001	1	Hex Nut, 5/16"-18
10	705004	2	Hex Capscrew, 3/8"-16 x 3/4"
11	720002	2	Lockwasher, 3/8"
12	717003	2	Full Hex Nut, 3/8"
13	174111	1	Lift Shaft Assembly
14	157624	2	Set Collar
15	713002	2	Set Screw Sq. Hd., 5/16"-18 x 3/8"
16	705039	1	Hex Capscrew, 7/16"-14 x 1-1/2"
17	705047	1	Hex Capscrew, 7/16"-14 x 1-3/4"
18	720006	3	Lockwasher, 7/16"
19	717022	2	Full Hex Nut, 7/16"-14
20	719002	4	Plain Washer, 5/16"
21	157652	2	Key
22	713502	1	Set Screw, 5/16"-18 x 1/4"
23	171589	1	Lift Lever Assembly
24	720002	1	Lockwasher, 3/8"
25	715120	2	Hex Capscrew, 3/8"-16 x 1"
26	157652	2	Key
27	171593	1	Lift Lever Assy. Inner Section
28	713502	1	Set Screw, 5/16"-18 x 1/4"
29	173039	1	Lift Lever Latch
30	723018	1	Roll Pin, 3/8" x 1-1/4"

Ref. No.	Part No.	Qty. Req.	Description
31	170983	1	Latch Rod
32	722001	1	Cotter Pin, 3/32" x 3/4"
33	154226	1	Spacer
34	152006	1	Spring
35	154227	1	Thumb Button
36	156209	1	Handle Grip
37	153058	1	Pin
38	8161045	1	Spring Clip
39	157625	1	Front Lift Lever Assembly
40	713502	1	Set Screw, 5/16"-18 x 1/4"
41	174085	1	Cable Assembly, Lift
42	172725	1	Pulley
43	157081	1	Spacer
44	174723	1	Cable Guard
45	108418	1	Screw
46	717524	1	Hex Jam Lock Nut, 3/8"-16
47	174215	1	Pin
48	722005	1	Cotter Pin, 3/32" x 7/8"
49	153058	1	Pin
50	8161045	1	Spring Clip
51	164304	1	Arm Assembly
52	164284	1	Arm Assembly
53	720006	4	Lockwasher, 7/16"
54	705041	4	Hex Capscrew, 7/16"-14 x 1"
55	154202	1	Draw Bar Assembly
56	157091	1	Full Bar
57	1608759	1	Spacer
58	705052	1	Hex Capscrew, 7/16"-14 x 2-1/4"
59	154203	1	Draw Bar

# TRANSMISSION GROUP



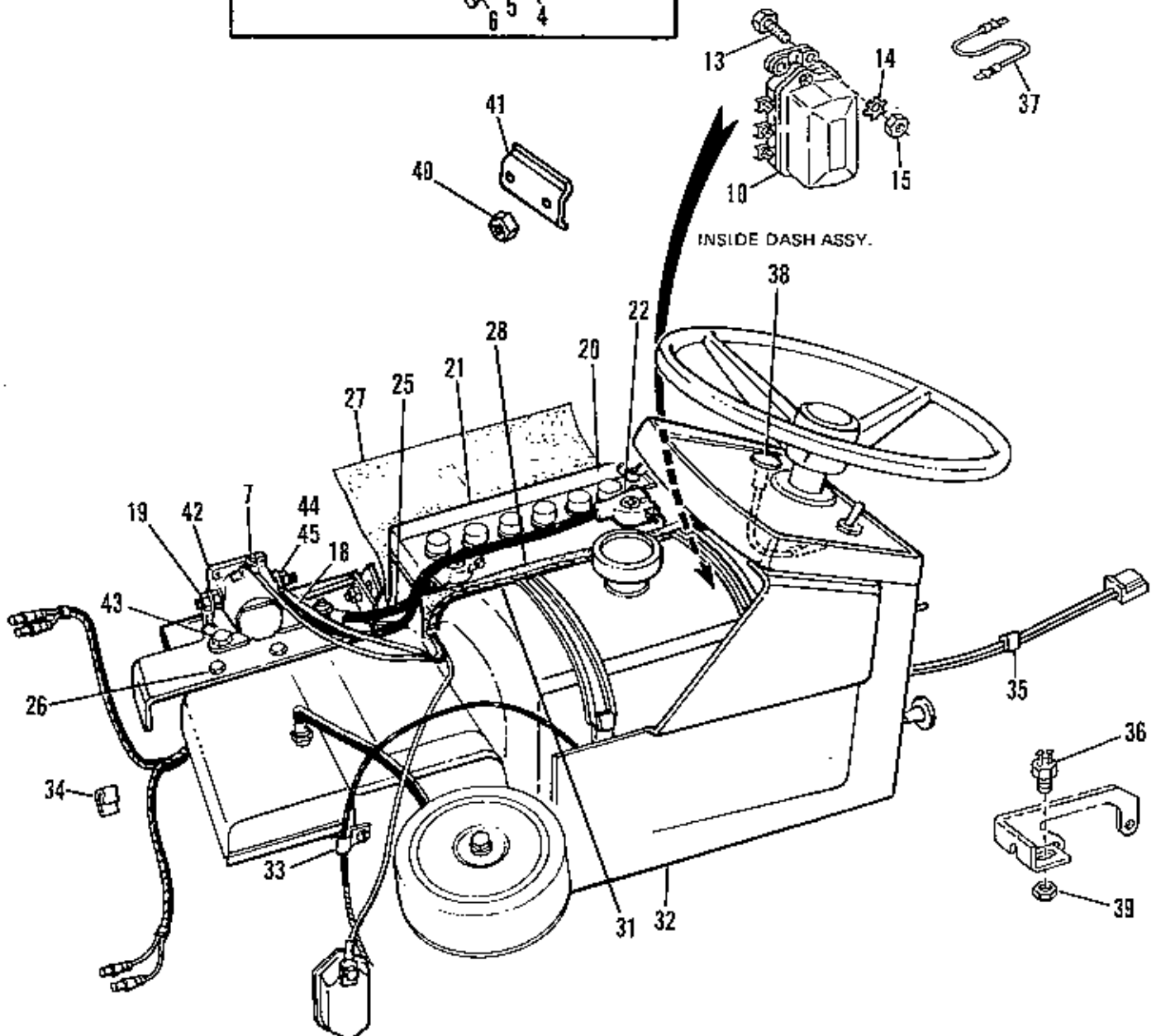
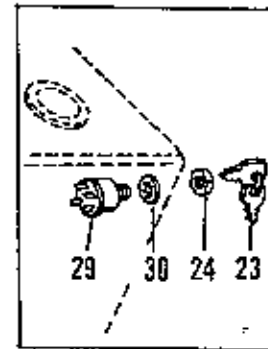
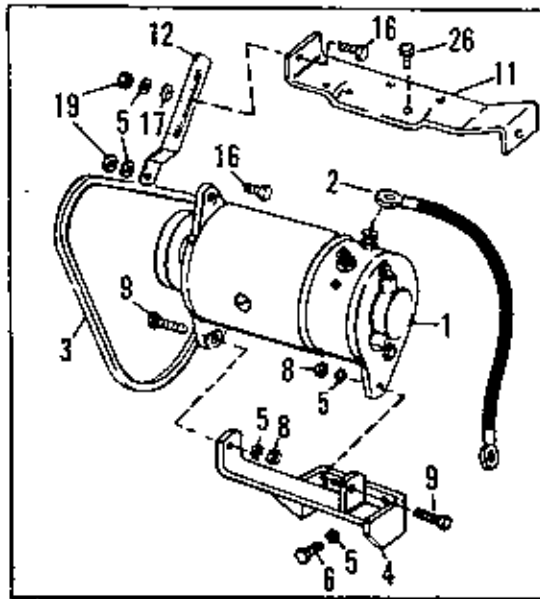
# TRANSMISSION GROUP

Ref. No.	Part No.	Qty. Req.	Description
1	174582	1	Case, Gear Assy. Complete w/bearings & dowel pins (Includes 2 thru 7)
2	174583	1	Expansion Plug
3	713507	1	Set Screw, Cup Pt. Socket Hd., 3/8"-16 x 3/8"
4	723007	2	Roll Pin, 3/8" x 1"
5	154257	1	Needle Bearing
6	154258	1	Needle Bearing
7	154259	2	Needle Bearing
8	157519	1	Needle Bearing
9	154538	1	Roll Pin
10	121084	2	Spacer
11	157619	2	Oil Seal
12	164250	1	Shift Rod
13	172779	1	Shift Stem
14	728501	1	Elbow, 3/8" x 90°
15	154067	1	Shifter Shaft Reverse, Medium
16	154068	1	Shifter Shaft High, Low
17	8061048	2	Retaining Ring
18	715019	2	Set Screw, Hollow Head, Cone Pt., 5/16"-18 x 1/2"
19	154069	2	Shift Fork
20	154323	2	Spring
21	154262	2	Shift Lock Ball
22	173807	1	Pulley Shaft
23	118134	1	Retaining Ring
24	154462	1	Washer
25	108472	1	Washer
26	172982	1	Washer
27	172981	1	Washer
28	154264	1	Retaining Ring
29	164294	1	Key
30	174234	1	Gear Assy., II & IV
31	154075	1	Pinion Assy., I & III
32	157290	1	Shaft, 1st Intermediate
33	154263	1	Oil Seal
34	154078	1	Driven I, Gear
35	154354	1	Key
36	154079	1	Pinion, 1st Intermediate
37	154080	1	Pinion, Driven, III
38	8061012	3	Trans. Gear Spacer
39	154081	1	Driven II Gear
40	154082	1	Spacer
41	154264	1	Retaining Ring

Ref. No.	Part No.	Qty. Req.	Description
42	174228	1	Pinion, Reverse, IV
43	154086	1	Shaft, 2nd Intermediate
44	154038	1	Washer
45	172979	2	Washer
46	172978	2	Washer
47	154266	1	Retaining Ring
48	164062	1	Pinion, 2nd Intermediate
49	154267	1	Key
50	154089	1	Gear, 2nd Intermediate
51	154090	1	Spacer
52	154091	1	Shaft, 3rd Intermediate
53	172979	2	Washer
54	172978	2	Washer
55	154266	1	Retaining Ring
56	154092	1	Pinion, 3rd Intermediate
57	164051	1	Gear, 3rd Intermediate
58	725002	2	Key Woodruff
59	164222	1	Axle Tube w/bushing
60	727002	1	Grease Fitting
61	154095	1	Drive Gear
62	154096	2	Key
63	172977	2	Washer
64	154097	1	Washer
65	154268	2	Snap Ring
66	154130	2	Axle Tube Washer
67	154269	2	Seal
68	164234	1	Gear Case Gasket
69	154098	1	Axle Tube Spacer
70	164226	1	Gear Case Cover, Complete w/bearings
71	108202	1	Ball Bearing
72	164064	1	Retaining Ring
73	154257	1	Needle Bearing
74	154271	1	Needle Bearing
75	154259	1	Needle Bearing
76	157520	1	Needle Bearing
77	154537	1	Roll Pin Assembly
78	726003	2	Pipe Plug, 3/8"
79	705007	14	Hex Capscrew, 5/16"-18 x 1"
80	720001	14	Lockwasher, 5/16"
81	164251	1	Switch Support
82	172241	1	Carriage Bolt, 5/16"-18 x 1"
83	717011	1	Jam Nut, 5/16"-18
84	726003	1	Pipe Plug, 3/8"
85	164224	2	Bushing



# ELECTRIC STARTER-GENERATOR SYSTEM

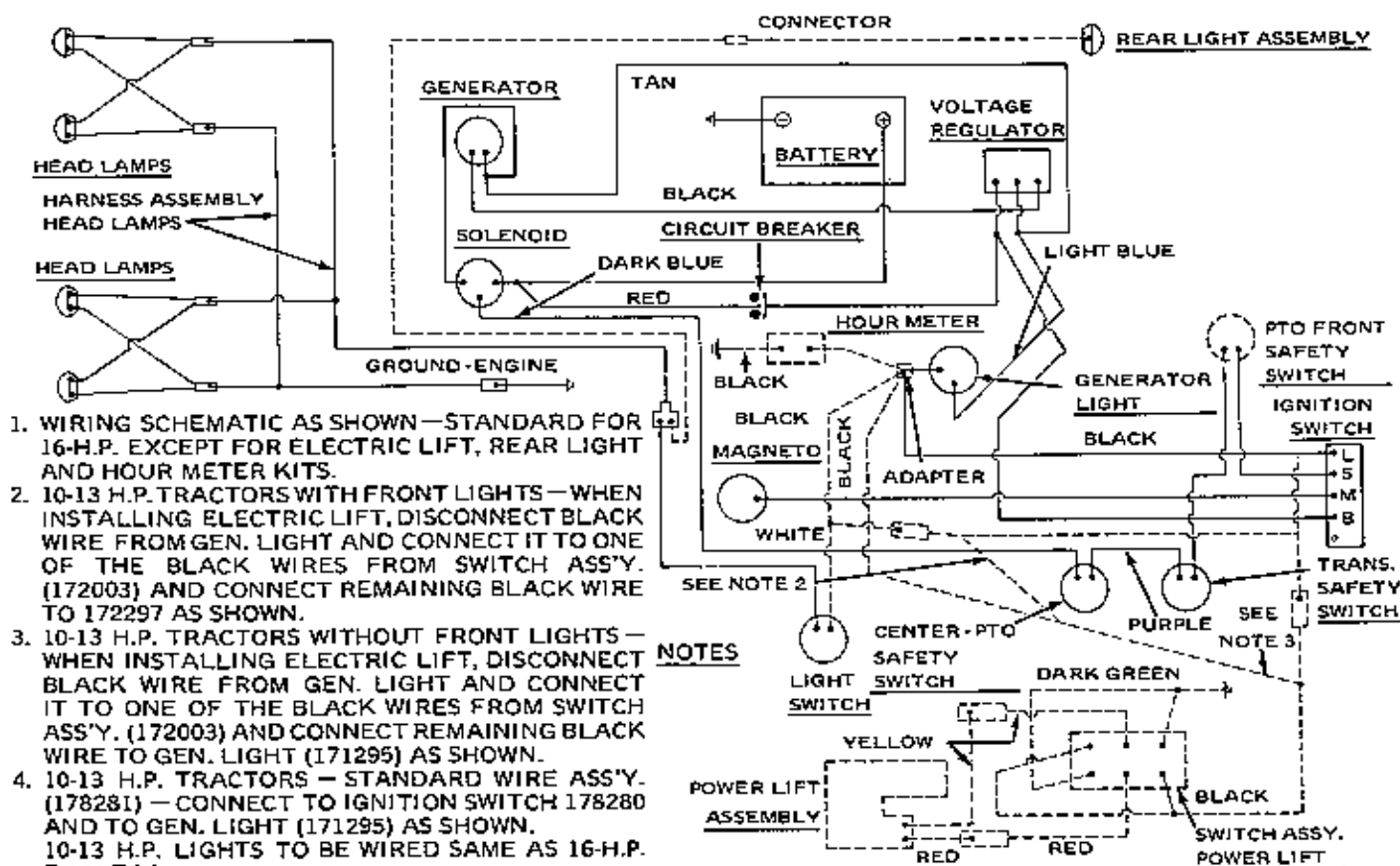


# ELECTRIC STARTER - GENERATOR SYSTEM

Ref. No.	Part No.	Qty. Req.	Description
1	122236**	1	Motor - Generator
2	122213	1	Generator Start Cable
3	157524	1	"V" Belt
4	157654	1	Support Assembly
5	720001	8	Lockwasher, 5/16"
6	705017	2	Hex Capscrew, 5/16" - 18 x 3/4"
7	720003	2	Lockwasher, 1/4"
8	717001	2	Full Hex Nut, 5/16" - 18
9	705019	2	Hex Capscrew, 5/16" - 18 x 1-1/4"
10	122193**	1	Voltage Regulator
11	176931	1	Bracket
12	157102	1	Arm, Belt Tightener
13	705030	3	Hex Capscrew, 1/4" - 20 x 3/4"
14	721002	3	Lockwasher, 1/4"
15	717005	5	Full Hex Nut, 1/4" - 20
16	715048	2	Hex Capscrew, 5/16" - 18 x 3/4"
17	719002	1	Plain Washer, 5/16"
18	172163	1	Circuit Breaker
19	717001	3	Full Hex Nut, 5/16" - 18
20	172270	1	Battery
21	172277	1	Film, Battery
22	171805	1	Cable (Battery to Solenoid)
23	122203	1	Key and Ring Assembly
24	122234	1	Special Hex Nut

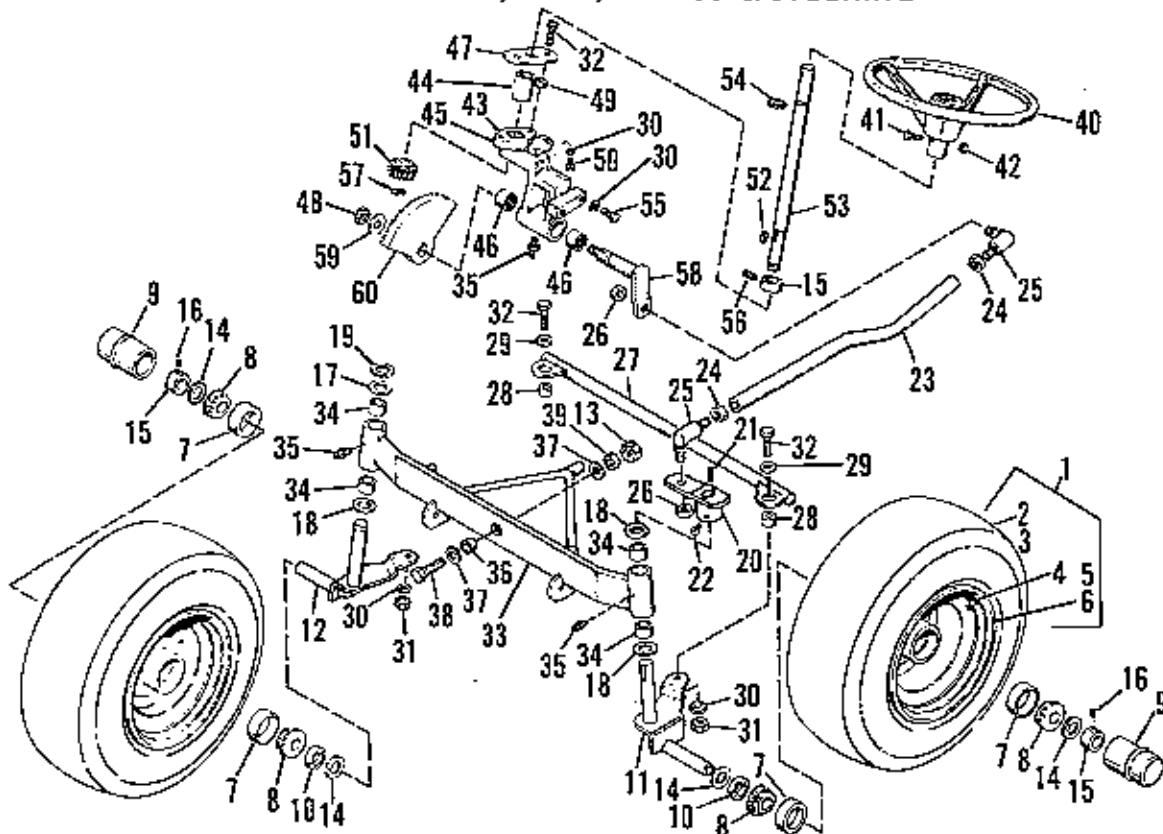
Ref. No.	Part No.	Qty. Req.	Description
25	171811	1	Cable (Battery to Ground)
26	715090	1	Screw Hex Thread Forming, 1/4" - 20 x 1/2"
27	122142	1	Battery Insulation
28	172119	1	Fuel Tank Insulation
29	178280	1	Ignition Switch w/Key
30	721505	1	Lockwasher Internal, 5/8"
31	178281	1	Harness Assembly
32	172175	1	Grommet
33	106786	1	Clamp
34	165074	1	Speed Clip
35	165073	1	Speed Clip
36	177522	2	Switch
37	174702	1	Wire Assembly
38	171295	1	Indicator Lamp Assembly
39	718067	2	Nut, Pal
40	717525	2	Elastic Stop Nut
41	171225	1	Battery Clamp
42	122216	1	Solenoid
43	715090	2	Screw Hex Thread Forming, 1/4" - 20 x 1/2"
44	717007	1	Full Hex Nut, No. 10-32
45	721003	1	Lockwasher, External No. 10

\*\* FOR SERVICE CONTACT YOUR LOCAL UNITED MOTOR SERVICE DEALER (DELCO - REMY).



ADAPTOR. THEN CONNECT REMAINING END OF BLACK WIRE (172997) TO ONE TERMINAL ON HOUR METER (172993). CONNECT ONE END OF BLACK WIRE (172998) TO REMAINING TERMINAL ON HOUR METER (172993) AND OPPOSITE END TO INSTRUMENT PANEL AS SHOWN.

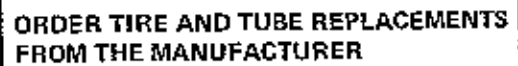
# FRONT WHEELS, AXLE, TIE ROD & STEERING



Ref. No.	Part No.	Qty. Req.	Description
1	171376	2	Wheel & Tire Assembly
2	157490	2	Tire
3	164247	2	Tube
4	156305	2	Valve Stem & Cap
5	171377	2	Wheel-Sub Assembly
6	171378	2	Wheel (Front)
7	154393	4	Bearing, Cup
8	154486	4	Bearing, Cone (Without Seal)
9	154487	2	Hub Cap
10	170168	2	Seal
11	171774	1	Spindle Assy., L.H.
12	157494	1	Spindle Assy., R.H.
13	717017	1	Hex Jam Nut, 1/2"-13
14	171375	4	Spacer
15	8021010	3	Collar, Set
16	713503	2	Set Screw, 5/16"-18 x 5/16"
17	8061012	1	Washer (Use Beneath Snap Ring)
18	108181	3	Washer
19	157286	1	Ring, Retaining
20	170998	1	Arm Assy., Strg. L.H.
21	157427	2	Key
22	713006	2	Set Screw, 5/16"-18 x 1/2"
23	171830	1	Rod, Tie
24	717016	2	Hex Jam Nut, 1/2"-20 N.F.
25	164272	2	Joint, Ball
26	717528	2	Hex Nut, Jam Lock, 1/2"-20
27	157499	1	Link Assy., Drag
28	154177	2	Spacer
29	719001	2	Washer, Plain, 3/8"
30	720002	5	Lockwasher, 3/8"

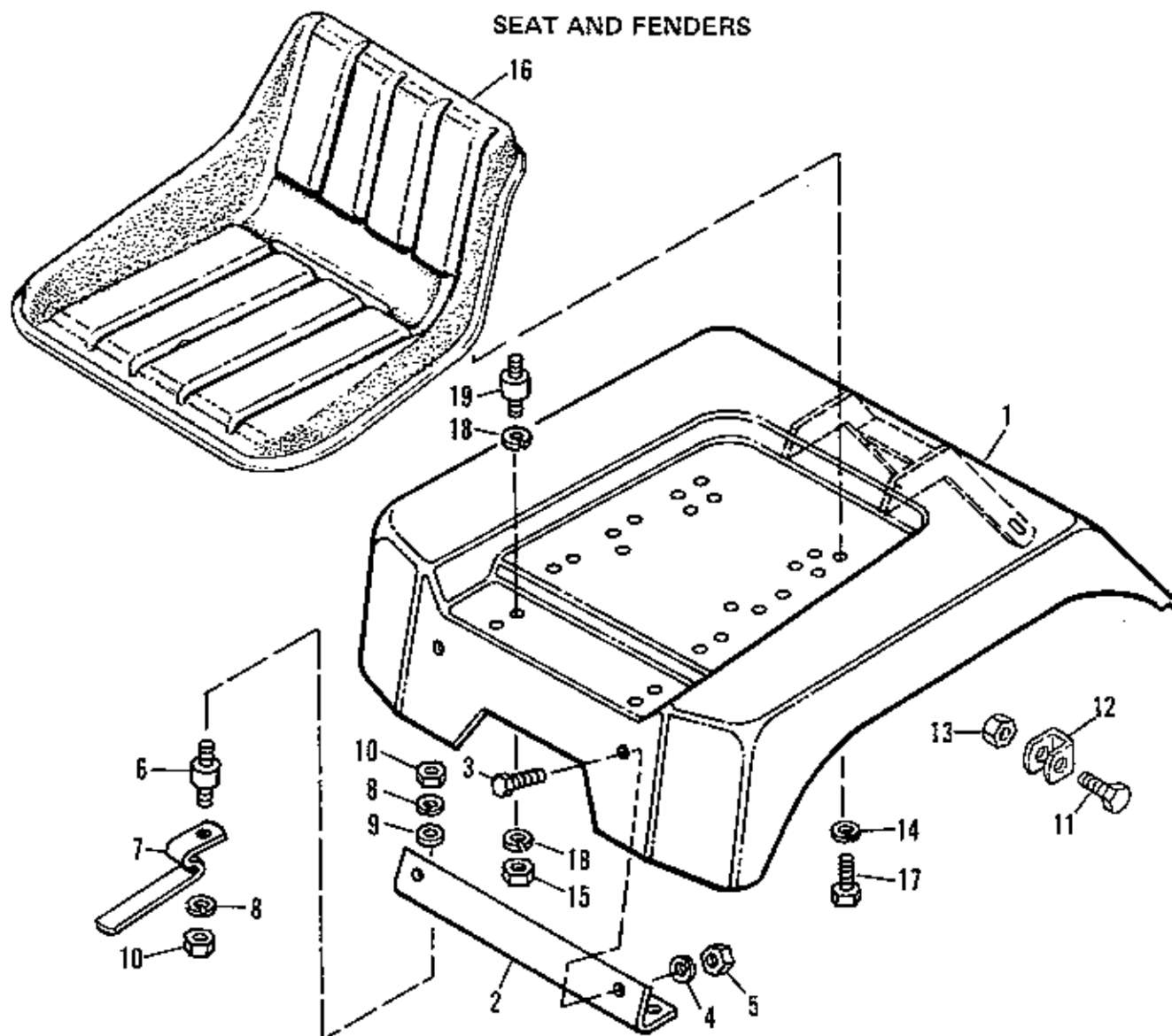
Ref. No.	Part No.	Qty. Req.	Description
31	717003	2	Full Hex Nut, 3/8"-16 N.C.
32	705016	4	Hex Capscrew, 3/8"-16 x 1-1/4"
33	157616	1	Axle Assy., Front
34	154289	4	Bushing
35	727001	3	Fitting, Grease
36	157618	1	Spacer
37	719004	2	Plain Washer, 1/2"
38	715159	1	Hex Capscrew
39	718068	1	Nut, Toplo, 1/2"-13
40	171196	1	Steering Wheel
41	715046	1	Hex Capscrew, 5/16"-18 x 1-1/4"
42	718050	1	Nut, Flange, Lock 5/16-18
43	170960	1	Steering Bracket, Casting
44	170992	1	Bushing, Steering
45	171832	1	Casting and Bearing
46	154258	2	Bearing, Needle
47	171000	1	Plate, Steering
48	717519	1	Hex Lock Nut, 7/16"-14 N.C.
49	717524	2	Hex Jam Nut, 3/8"-16
50	715030	1	Hex Capscrew, 3/8"-16 x 3/4"
51	170988	1	Pinion, 15 T, Bevel
52	725002	1	Key, Woodruff
53	171020	1	Shaft, Steering
54	154264	1	Ring, Retaining
55	705031	2	Hex Capscrew, 3/8"-16 x 7/8"
56	713502	1	Set Screw, 5/16"-18 N.C. x 1/4"
57	1602155	1	"E" Ring
58	170999	1	Arm Assy. Steering
59	719003	1	Plain Washer, 7/16"
60	170987	1	Gear, 23 T, Bevel

**NOTE: REFERENCE NUMBERS 18 AND 27  
MUST BE REPLACED IN PAIRS**



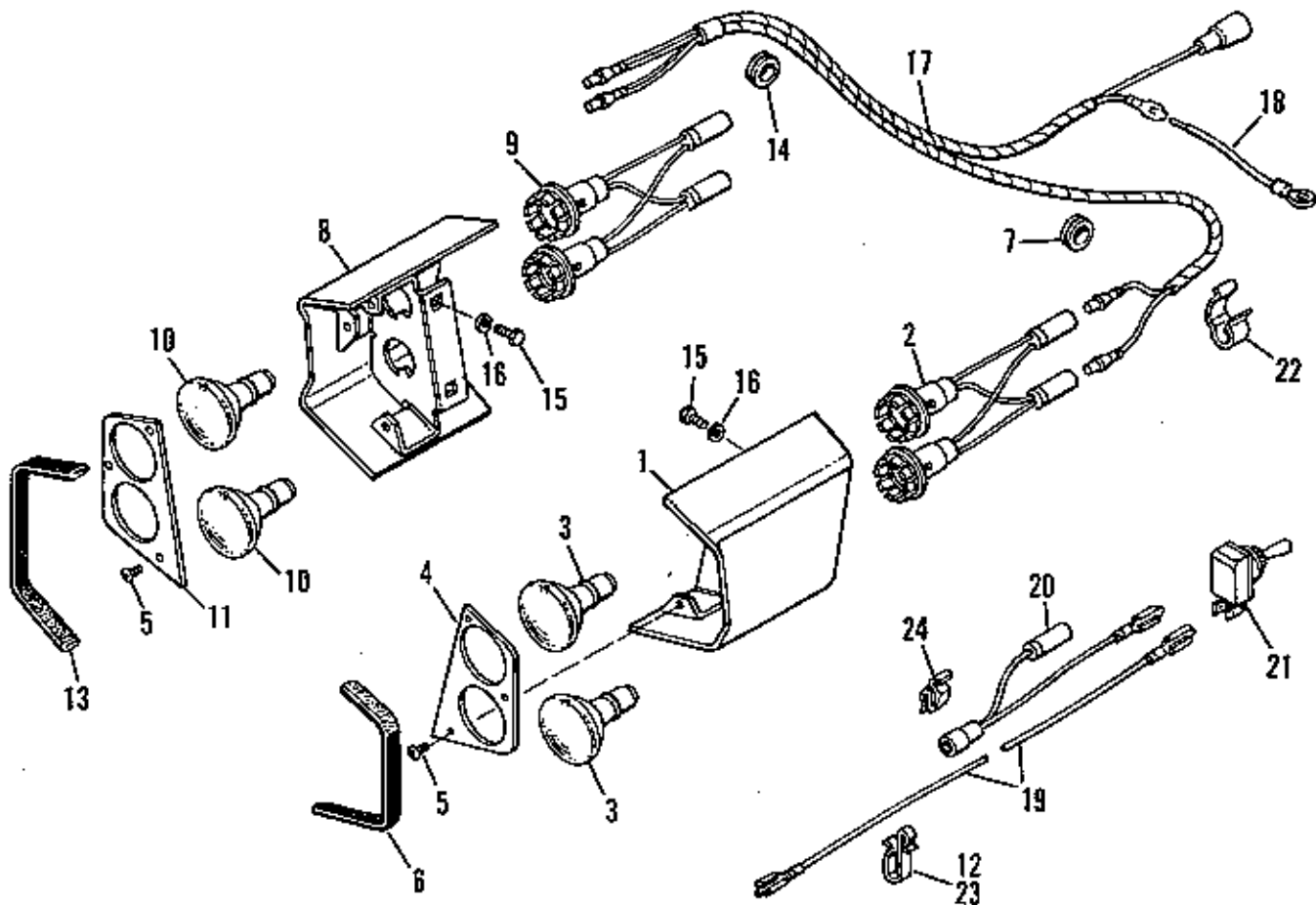
Ref. No.	Part No.	Qty. Req.	Description
18	171853	1	Differential Cover
19	177041	1	Differential Gear
20	725501	2	Hi-Pro Key
21	154291	1	Retaining Ring
22	154277	1	Axle Washer
23	158579	8	Differential Pinion
24	121083	8	Differential Pinion Spindle
25	162085	8	Spring
26	171517	2	Ring Spacer
27	171854	1	Differential Cover
28	715043	8	Hex Capscrew, 3/8" - 16 x 2-1/2"
29	717510	8	Full Hex Lock Nut, 3/8" - 16
30	705015	6	Hex Capscrew, 1/4" - 20 x 5/8"
31	720003	6	Lockwasher, 1/4"
32	717005	6	Full Hex Nut, 1/4" - 20

# SEAT AND FENDERS



Ref. No.	Part No.	Qty. Req.	Description
1	166111	1	Seat Deck Assembly
2	164029	1	Seat Deck Bracket, Front
3	705012	2	Hex Capscrew, 5/16"-18 x 5/8"
4	720001	2	Lockwasher, 5/16"
5	717001	2	Full Hex Nut, 5/16"-18
6	157094	2	Cushion Connector, Front
7	1606823	2	Spring Clip
8	720001	4	Lockwasher, 5/16"
9	719006	2	Washer, 1/4"
10	717001	4	Full Hex Nut, 5/16"-18
11	705016	2	Hex Capscrew, 3/8"-16 x 1-1/4"
12	1607870	2	Seat Deck Stop
13	717510	2	Full Hex Lock Nut, 3/8"-16
14	720001	2	Lockwasher, 5/16"
15	717001	4	Full Hex Nut, 5/16"-18
16	171153	1	Contour Seat Assembly
17	705012	2	Hex Capscrew, 5/16"-18 x 5/8"
18	720001	4	Lockwasher, 5/16"
19	159085	2	Cushion Connector

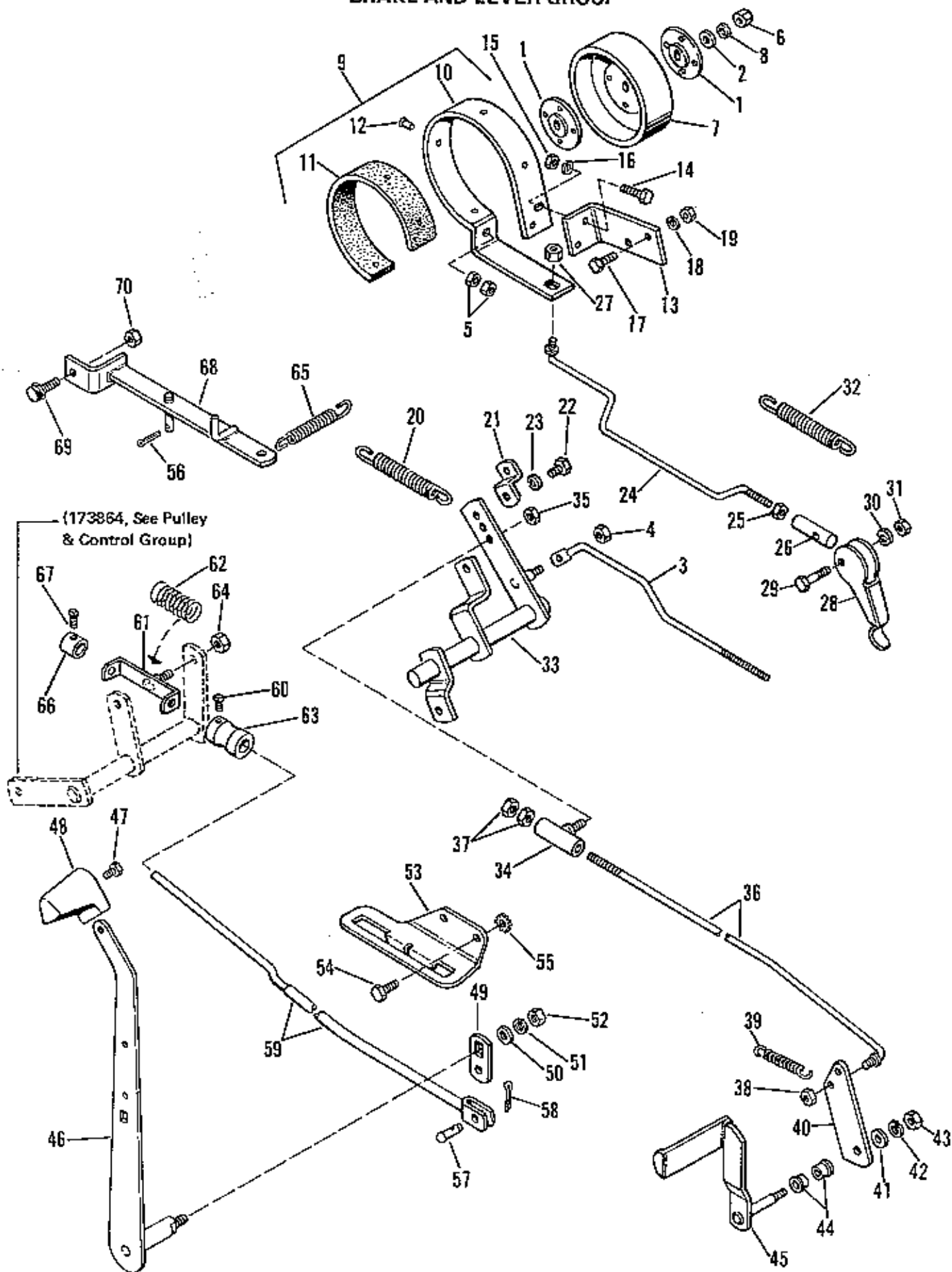
# **FRONT LIGHT GROUP** (Optional)



Ref. No.	Part No.	Qty. Req.	Description
1	172286	1	Shroud & Plate Assy., L.H.
2	172290	1	Lamp Socket & Wire Assembly
3	172048	2	Headlight
4	172243	1	Plate, Front
5	714019	6	Screw, Round Head Phillips Swageform No. 12-24 x 1/2"
6	172269	1	Moulding
7	172176	1	Grommet
8	172285	1	Shroud & Plate Assy., R.H.
9	172290	1	Lamp Socket & Wire Assy.
10	172048	2	Headlight
11	172243	1	Plate, Front
12	172434	1	Cable Clip Tinnerman
13	172269	1	Moulding

Ref. No.	Part No.	Qty. Req.	Description
14	172176	1	Grommet
15	705030	4	Hex Capscrew, 1/4"-20 x 3/4"
16	720003	4	Lockwasher, 1/4" Std.
17	172294	1	Harness Assembly
18	172295	1	Wire Assy., Ground
19	172296	1	Wire Assy., Light Switch
20	172297	1	Wire Assy., Indicator Lamp
21	122184	1	Switch, Toggle
22	172436	2	Cable Clip Tinnerman, Front Frame
23	172434	1	Cable Clip Tinnerman, Rear Frame
24	172433	1	Cable Clip Tinnerman, Top of Grille

# BRAKE AND LEVER GROUP



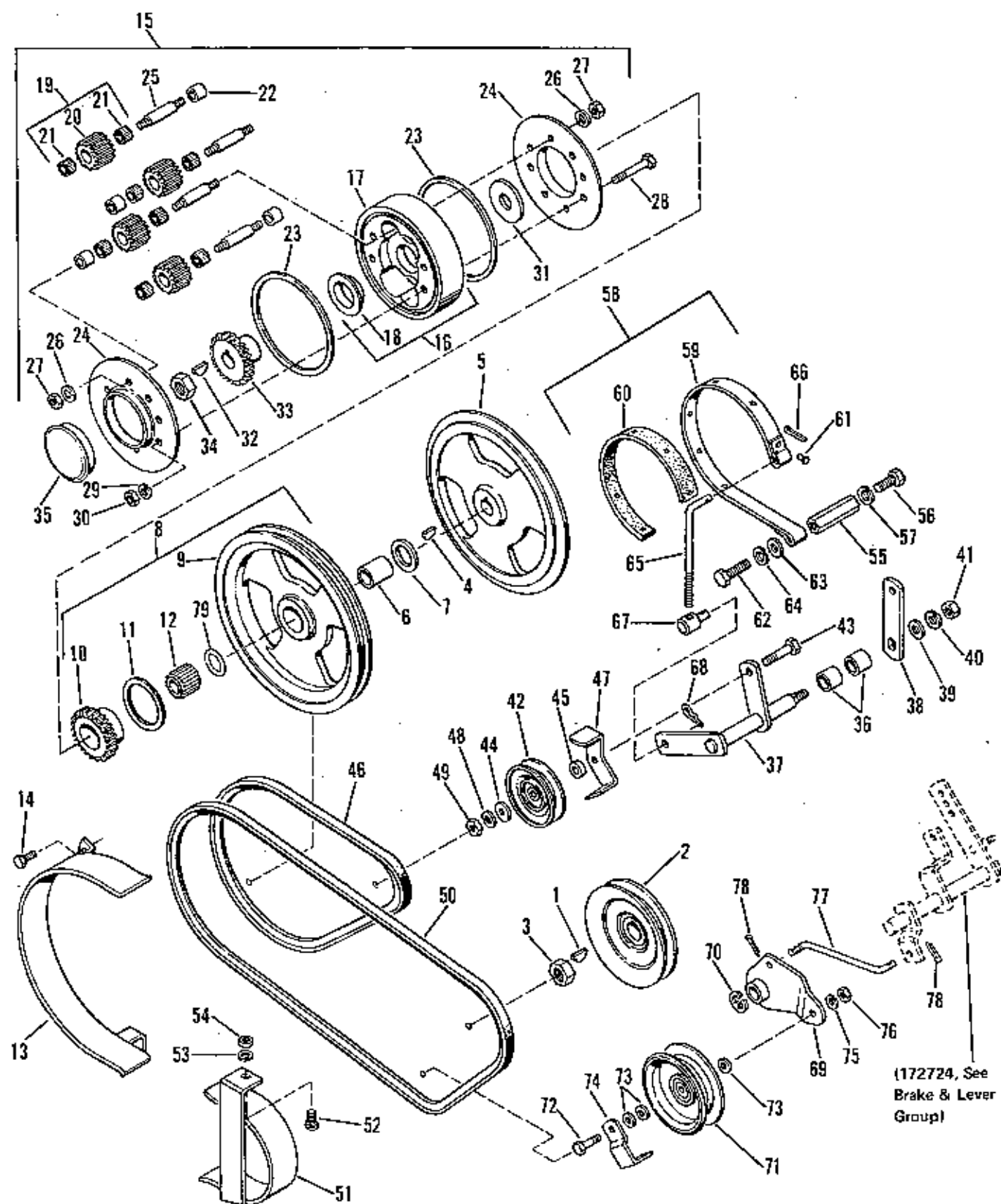


## BRAKE AND LEVER GROUP

Ref. No.	Part No.	Qty. Req.	Description
1	158196	2	Special Washer
2	719001	1	Plain Washer, 3/8"
3	172722	1	Brake Rod
4	717511	1	Full Hex Nut, 5/16"-18
5	717003	2	Full Hex Nut, 3/8"-16
6	717022	1	Full Hex Nut, 7/16"-14
7	157282	1	Brake Drum
8	720006	1	Lockwasher, 7/16"
9	171497	1	Brake Band & Lining Assembly
10	171482	1	Brake Band
11	154133	1	Brake Lining
12	724501	4	Rivet No. 7 x 5/16"
13	164113	1	Brake Band Bracket
14	705005	2	Hex Capscrew, 3/8"-16 x 1"
15	717003	2	Full Hex Nut, 3/8"-16
16	720002	2	Lockwasher, 3/8"
17	705030	2	Hex Capscrew, 1/4"-20 x 3/4"
18	720003	2	Lockwasher, 1/4"
19	717005	2	Full Hex Nut, 1/4"-20
20	174896	1	Spring
21	174893	1	Spring Clip
22	705042	1	Hex Capscrew, 7/16"-14 x 1-1/4"
23	720006	1	Lockwasher, 7/16"
24	174708	1	Parking Brake Rod Assembly
25	717508	1	Full Hex Lock Nut, 5/16"-18
26	171994	1	Rod End
27	717001	1	Full Hex Nut, 5/16"-18
28	172108	1	Parking Brake Lever
29	715062	1	Hex Capscrew, 1/4"-20 x 1-1/4"
30	721702	1	Double Lockwasher, 1/4"
31	717509	1	Full Hex Lock Nut, 1/4"-20
32	121037	1	Spring
33	172724	1	Pivot Lever Assembly
34	164094	1	Guide Rod Assembly
35	717511	1	Full Hex Lock Nut, 5/16"-18
36	174105	1	Clutch & Brake Rod Assy.

Ref. No.	Part No.	Qty. Req.	Description
37	717001	2	Full Hex Nut, 5/16"-18
38	717511	1	Full Hex Lock Nut, 5/16"-18
39	159106	1	Tension Spring
40	157300	1	Arm-Foot Pedal
41	719001	1	Plain Washer, 3/8"
42	720002	1	Lockwasher, 3/8"
43	717003	1	Full Hex Nut, 3/8"-16
44	108419	2	Bushing
45	171178	1	Foot Pedal Assembly
46	171072	1	Variable Planetary Lever Assy.
47	714012	1	Hex Self Forming Thread Screw, 1/4"-20 x 7/8"
48	171165	1	Knob
49	164123	1	Link
50	719001	1	Plain Washer, 3/8"
51	720002	1	Lockwasher, 3/8"
52	717003	1	Full Hex Nut, 3/8"-16
53	174473	1	Quadrant
54	172157	2	Special Screw
55	721001	2	Lockwasher, Shakeproof, 5/16"
56	722001	1	Cotter Pin, 3/32" x 3/4"
57	153058	1	Pin
58	722001	1	Cotter Pin, 3/32" x 3/4"
59	173876	1	Rod Assembly
60	713001	1	Sq. Hd. Set Screw, 1/4"-20 x 3/8" Grade 8
61	175335	1	Rod Guide Assembly
62	162065	1	Spring
63	174855	1	Brake Detent
64	717515	1	Full Hex Lock Nut, 3/8"-24
65	175290	1	Tension Spring
66	105201	1	Set Collar
67	713001	1	Sq. Hd. Set Screw, 1/4"-20 x 3/8" Grade 8
68	174852	1	Brake Lever Assembly
69	174854	1	Brake Pad Assembly
70	717011	1	Hex Jam Nut, 5/16"-18

# PULLEY AND CONTROL GROUP

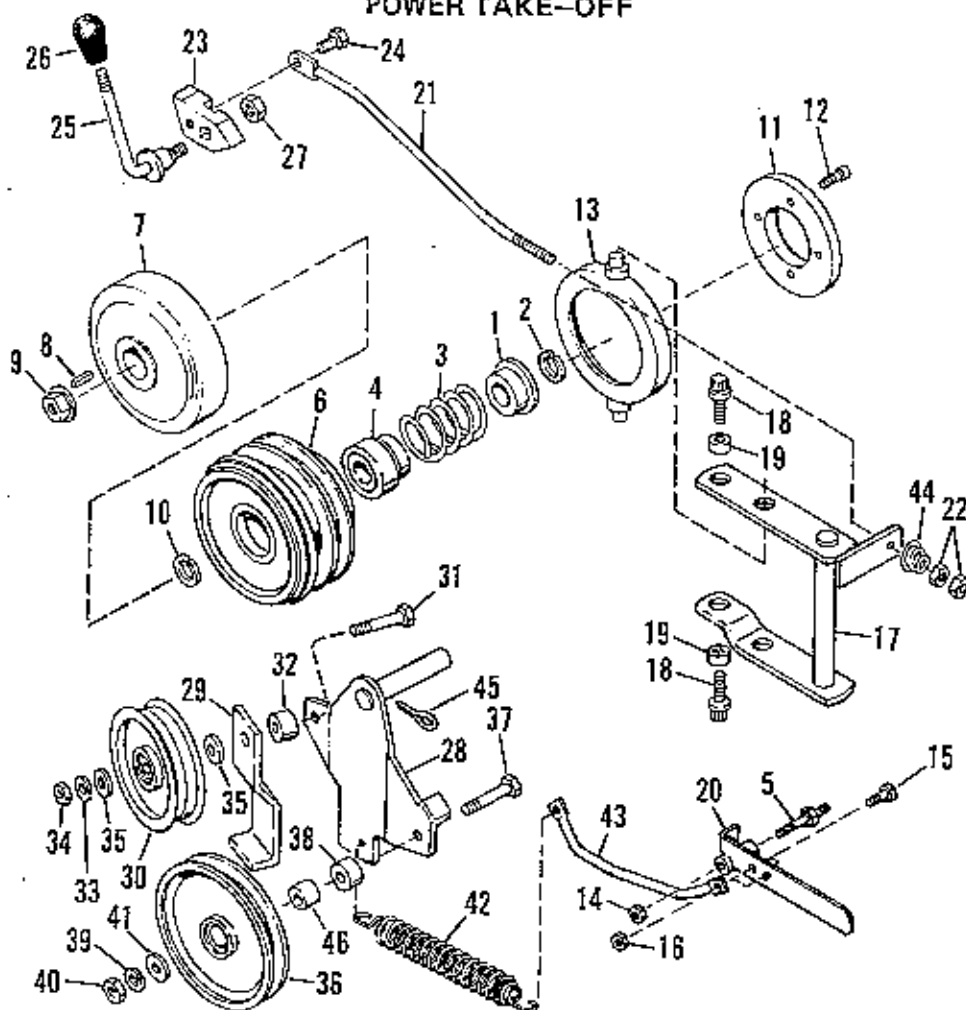


# PULLEY AND CONTROL GROUP

Ref. No.	Part No.	Qty. Req.	Description
1	725504	1	Hi Pro Key, 3/16" x 3/4"
2	174359	1	Pulley
3	717517	1	Hex Jam Nut, 3/4"-16
4	725003	1	Key, Woodruff No. 9
5	173793	1	Half Sheave
6	174568	1	Inner Race
7	174570	1	Thrust Bearing
8	176255	1	Sheave Assembly
9	173794	1	Sheave
10	175712	1	Gear Differential
11	174981	1	Seal
12	177343	1	Bearing, Roller
13	174394	1	Pulley Guard Assembly
14	715155	2	Taptite Hex Hd. Washer Screw, 5/16"-18 x 5/8"
15	176256	1	Planetary Assembly
16	174586	1	Planetary Carrier Sub-Assy.
17	173795	1	Planetary Carrier
18	173789	1	Bearing, Flange
19	176257	4	Pinion Differential Assembly
20	175710	4	Pinion Differential
21	174567	8	Bearing, Needle
22	174569	4	Bearing, Sleeve
23	174399	2	"O" Ring
24	174404	2	Differential, Cover
25	174025	4	Pinion, Pin
26	721501	8	Lockwasher, Shakeproof
27	717001	8	Full Hex Nut, 5/16"-18
28	705020	4	Hex Capscrew, 5/16"-18 x 2"
29	720001	4	Lockwasher, 5/16"
30	717001	4	Full Hex Nut, 5/16"-18
31	174274	1	Washer, Thrust
32	725003	1	Key, Woodruff, 3/16" x 3/4"
33	175714	1	Gear, Differential
34	717517	1	Hex Jam Nut, 3/4"-16
35	174584	1	Hub Cap
36	118092	2	Bushing
37	173864	1	Lever Assembly
38	174427	1	Lever
39	719001	1	Plain Washer, 3/8"

Ref. No.	Part No.	Qty. Req.	Description
40	720002	1	Lockwasher, 3/8"
41	717003	1	Full Hex Nut, 3/8"-16
42	174561	1	Idler Pulley
43	705009	1	Hex Capscrew, 3/8"-16 x 1-1/2"
44	719002	1	Plain Washer, 5/16"
45	174870	1	Spacer
46	174883	1	V-Belt
47	174402	1	Guide Belt
48	720002	1	Lockwasher, 3/8"
49	717003	1	Full Hex Nut, 3/8"-16
50	174731	1	V-Belt
51	174424	1	Belt Guard Assembly
52	703004	1	Carriage Bolt, 3/8"-16 x 3/4"
53	720002	1	Lockwasher, 3/8"
54	717003	1	Full Hex Nut, 3/8"-16
55	174386	1	Brake Anchor
56	715096	1	Hex Capscrew, 3/8"-16 x 1"
57	720002	1	Lockwasher, 3/8"
58	174381	1	Brake Band Assembly
59	174382	1	Brake Band
60	174383	1	Brake Lining
61	724502	6	Rivet No. 7 x 1/4"
62	705009	1	Hex Capscrew, 3/8"-16 x 1-1/2"
63	719002	1	Plain Washer, 5/16"
64	720002	1	Lockwasher, 3/8"
65	174385	1	Rod
66	722001	1	Cotter Pin, 3/32" x 3/4"
67	108172	1	Pivot
68	722001	1	Cotter Pin, 3/32" x 3/4"
69	173861	1	Idler Lever Assembly
70	1602155	2	"E" Ring
71	174497	1	Pulley
72	705009	1	Hex Capscrew, 3/8"-16 x 1-1/2"
73	719002	3	Plain Washer, 5/16"
74	106717	1	Guide Belt
75	720002	1	Lockwasher, 3/8"
76	717003	1	Full Hex Nut, 3/8"-16
77	164088	1	Clutch Link
78	722001	3	Cotter Pin, 3/32" x 3/4"
79	118019	1	Seal

# POWER TAKE-OFF



Ref. No.	Part No.	Qty. Req.	Description
1	173965	1	Inner Spring Guide
2	172206	1	Ring, Retaining
3	171772	1	Spring
4	174859	1	Bushing Assembly
5	157273	1	Stud
6	173956	1	Pulley
7	174862	1	Clutch Plate Assembly
8	8061081	1	Key
9	718063	1	Washer Base Lock Nut
10	172206	1	Ring, Retaining
11	173957	1	Brake Disc
12	715162	4	Socket Hd. Screw, 1/4" - 20 x 5/8"
13	174013	1	Support Brake Assembly
14	717519	1	Full Hex Lock Nut, 7/16" - 14
15	705017	1	Hex Capscrew, 5/16" - 18 x 3/4"
16	717511	1	Full Hex Lock Nut, 5/16" - 18
17	174451	1	Pivot Assembly
18	715186	2	Thread Forming Screw, 5/16" - 18 x 3/4"
19	171371	2	Bushing
20	164155	1	Handle Assembly
21	173988	1	Control Rod
22	717001	2	Full Hex Nut, 5/16" - 18
23	173991	1	Lever

Ref. No.	Part No.	Qty. Req.	Description
24	174686	1	Special Capscrew, 5/16" UNC-2A x 7/8" Grade 5
25	174664	1	Handle, Clutch PTO
26	172038	1	Knob
27	717510	1	Full Hex Lock Nut, 3/8" - 16
28	174455	1	Pivot Arm Assembly
29	170289	1	Belt Stop
30	105306	1	Pulley
31	705006	1	Hex Capscrew, 3/8" - 16 x 2"
32	157081	1	Spacer
33	720002	1	Lockwasher, 3/8"
34	717003	1	Full Hex Nut, 3/8" - 16
35	719002	2	Plain Washer, 5/16"
36	173982	1	Idle Pulley
37	705006	1	Hex Capscrew, 3/8" - 16 x 2"
38	172329	1	Spacer
39	720002	1	Lockwasher, 3/8"
40	717003	1	Full Hex Nut, 3/8" - 16
41	719002	1	Plain Washer, 5/16"
42	157262	1	Spring Tension
43	164047	1	Spring Tension Rod
44	175316	1	Conical Spring
45	722007	1	Cotter Pin, 3/16" x 1-1/2"
46	170291	1	Spacer